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Alexander von Humboldt
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Alexander von Humboldt

Associazione Italiana

ATTI DI CONFERENZA

CONVEGNO NAZIONALE

AL CROCEVIA TRA AFRICA, ASIA ED EUROPA SFIDE E PROSPETTIVE



AM KREUZPUNKT VON AFRIKA, ASIEN UND EUROPA
HERAUSFORDERUNGEN UND PERSPEKTIVEN

AT THE CROSSROADS OF AFRICA, ASIA AND EUROPE
CHALLENGES AND PERSPECTIVES

A cura di

Giacomo de Angelis

VENEZIA S. SERVOLO, 30 MAGGIO – 1° GIUGNO 2013

VENICE INTERNATIONAL UNIVERSITY, S. SERVOLO

ISTITUTO NAZIONALE FISICA NUCLEARE

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Atti del Convegno dell'Associazione Italiana

Alexander von Humboldt

Venezia, Isola di San Servolo, 30 maggio 1 giugno 2013





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Con il sostegno di

ALEXANDER VON HUMBOLDT STIFTUNG

AMBASCIATA DELLA REPUBBLICA FEDERALE DI GERMANIA – ROMA

DEUTSCHER AKADEMISCHER AUSTAUSCH DIENST

ISTITUTO NAZIONALE DI FISICA NUCLEARE

VENICE INTERNATIONAL UNIVERSITY

VILLA VIGONI – CENTRO ITALO-TEDESCO

PROGRAMMA

GIOVEDÌ, 30 MAGGIO 2013

14:30-15:30 Apertura del convegno

Interventi di benvenuto:

- G. DE ANGELIS (INFN LNL, Padova)
- R. SCHAEFERS (Ambasciata di Germania, Roma)
- T. BARGMANN (DAAD, Roma)
- I. AMODEO (Segretario Generale di Villa Vigoni)
- C. BORRI (Presidente della Associazione Italiana Borsisti AvH)

15:30-18:55 1. Sessione

Interculturalism, Migration and Multiculturalism

Chair: M. FOSCHI ALBERT (Univ. Pisa), S. POGGI (Univ. Firenze)

Relatori:

- L.M. EICHINGER (IDS Mannheim, Germany)
The linguistic consequences of migration in European societies
- S. CALIFANO (Univ. Firenze)
L'impegno delle accademie europee per lo sviluppo culturale dell'Africa mediterranea
- A. SOUDI (Ecole Nat. Industrie Minerale, Rabat, Morocco)
A Robust Technology facilitating interaction between the Hearing Culture and the Deaf Culture

16:45-17:15 Pausa caffè

- P.U. DINI (Univ. Pisa)
Ipotesi linguistiche fra Mediterraneo e Baltico
- M. TULLI (Univ. Pisa)
Un viaggio per le mimesis: Platone, il passato e il racconto su Atlantide
- F. LONGATO (Univ. Trieste)
Scienze e mondo della vita. Basi interculturali
- H.J. FISCHER (FAZ, Frankfurt, Germany)
Die geostrategische Bedeutung der Religion im Mittelmeer als Modell von Geschichte

19:00 Cena

20:30-22:00 **Assemblea generale dei membri della Associazione Italiana Borsisti Alexander von Humboldt**

VENERDÌ, 31 MAGGIO 2013

9:00-12:25 2. Sessione

Euro-Mediterranean Innovation and Research Area

Chair: F. GIANTURCO (Univ. Roma), G. DE ANGELIS (INFN LNL, Padova)

Relatori:

- K.H. LANGANKE (GSI, Darmstadt, Germany)
FAIR - A new Era in Nuclear Astrophysics
- A. ABADI (German University Cairo, Egypt)
New Paradigms for the Pharmaceutical Industry: The limitless Opportunities
- G. CUTTONE (INFN LNS, Catania)
Mediterranean Research Infrastructures: the INFN view
- S. GALES (CNRS Orsay, France)
Impact of new generation of Research Infrastructures in the European area

10:40-11:10 Pausa caffè

- F. AZAIEZ (IPNO Orsay, France)
Accelerator based science: an appealing option for training and exchange of young scientist around the Mediterranean
- J. MENG (Peking University, China)
Personal experience and view on the Internationalization of graduate Education in nuclear physics

12:30 FOTO DELLA CONFERENZA

13:00-14:30 Pranzo

14:30-17:45 3. Sessione

Mediterranean Area of Higher Education: Beforehand Statements and Perspectives

Chair: R. MARTINELLI (Univ. Trieste), A. ABADI (German Univ. Cairo, Egypt)

Relatori:

R. POZZO (DSU, CNR, Roma)

Le tre culture: Note a Jerome Kagan

A. MASTROCINQUE (Univ. Verona)

The pillars of the sky

W.A. BADAWY (University of Cairo, Egypt)

New trends in the application of nanotechnology in solar cell fabrication

15:45-16:15 Pausa caffè

O. MAHJOUB (Nat. Research Institute for Rural Engineering,

Water, and Forestry (INRGREF) Ariana, Tunisia)

The German-Arab cooperation: An Insight on the Experience of Young Arab Scientists

R. POZZO (AvH Embassador Scientist, Italia)

Förderprogramme der Humboldt-Stiftung

W.A. BADAWY (University of Cairo, Egypt)

The role of the Alexander von Humboldt Foundation in enhancing the scientific research in North Africa and the Mediterranean Area

18:50 Vaporetto per San Marco

19:30-20:30 Visita notturna alla Basilica

23:25 Rientro a S.Servolo

SABATO, 1 GIUGNO 2013

9:00-10:40 4. Sessione

Energy and Sustainable Development

Chair: P. ROMAGNOLI (Univ. Firenze), G. BENEDEK (Univ. Milano Bicocca)

Relatori:

M. MOUSA (Mu'tah University Al-Karak, Jordan)

Developments on Renewable Energy in Jordan

A. HAMZA H. ALI (Egypt Japan Univ. of Science and Technology)

Statuses of Renewable Energy Resources and Utilizations in Arab World Compared with Germany

D. ARMANINI (Univ. Padova)

Effetti sulla salute dello smaltimento di Steroidi per uso umano e veterinario

U. DATTA PRAMANIK (Saha Inst. Kolkata, India)

Nuclear Energy Source and Research with RIB

10:40-11:10 Pausa caffè

11:10-12:00 Tavola rotonda

Chair P. REITER (Univ. Köln)

Relatori:

A. SOUDI (AvH Embassador Scientist, Morocco)

M. MOUSA (Presidente, Associazione AvH Jordan)

V. MIRCESKI (Presidente Associazione AvH, Macedonia)

D. GOLTSCHNIGG (Presidente Associazione AvH, Austria)

C. BORRI (Presidente Associazione Borsisti AvH, Italy)

U. VATTANI (President of the Venice International Univ.)

12:00 **Chiusura del Kolleg**

G. DE ANGELIS (INFN LNL, Padova)

12:10-13:10 Pranzo

13:20 Vaporetto per S. Lazzaro

13:30-14:40 Visita al Monastero Mechitarista

14:45 Vaporetto per S. Servolo e S. Marco.

Contents

Vorwort <i>Giacomo de Angelis</i>	10
Migration und Sprache(n) in modernen europäischen Gesellschaften. Am Beispiel der Bundesrepublik Deutschland <i>Ludwig M. Eichinger</i>	12
The commitment of the European Academies to the cultural development of Mediterranean Africa. <i>Salvatore Califano</i>	18
Ipotesi linguistiche fra Mediterraneo e Baltico orientale <i>Pietro U. Dini</i>	30
Un viaggio per la <i>mimesis</i> : Platone, il passato e il racconto su Atlantide <i>Mauro Tulli</i>	47
Die geostrategische Bedeutung der Religion im Mittelmeer als Modell der Geschichte <i>Heinz-Joachim Fischer</i>	57
Personal view and experience on internationalization of graduate education in nuclear physics <i>Jie Meng</i>	65
The Caucasus in the Geographic and Cosmological Conceptions of the Greeks in the Archaic Period <i>Attilio Mastrocinque</i>	74
The German-Arab cooperation: An Insight on the Experience of Young Arab Scientists <i>Olfa Mahjoub, Jauad El Kharraz, Khadija Darmame, Borhane Mahjoub, Müfit Bahadir</i>	84
Renewable Energy Resources and Utilization: Comparative Study between Arab World and Germany <i>AHMED HAMZA H. ALI</i>	96
Aktivitäten des Österreichischer Klubs der Freunde der Alexander von Humboldt-Stiftung an Schnitt- und Kreuzungspunkten zwischen Europa, Afrika und Asien <i>Dietmar Goltschnigg</i>	110

Conclusions	
<i>Giacomo de Angelis</i>	116
<i>List of participants</i>	117

Vorwort

Das vorliegende Skript enthält den Konferenzbericht des Alexander von Humboldt Kollegs „Am Kreuzpunkt von Afrika, Asien und Europa Herausforderungen und Perspektiven“, das vom 30. Mai – 1. Juni 2013 an der Venice International University, Insel San Servolo, Venedig, auf Initiative der Associazione Italiana Alexander von Humboldt stattgefunden hat. Für die großzügige Unterstützung danken die Veranstalter der Alexander von Humboldt Stiftung, Bonn, sowie der Deutschen Botschaft, Rom. Unser Dank gilt auch der Venice International University für die freundliche Aufnahme. Thema der Veranstaltung war die wissenschaftliche Zusammenarbeit zwischen Europa und der MENA-Region unter Berücksichtigung der aktuellen Entwicklungen in der arabischen Welt. Das Kolleg zielte darauf ab, den wissenschaftlichen Dialog zwischen Deutschland, Italien und den Staaten der MENA-Region interdisziplinär zu beleuchten und ihn mit Blick auf die Zukunft zu beleben. Der angestrebte Vergleich zwischen Deutschland, Italien und den Staaten der MENA-Region sollte strukturelle Elemente hervorheben, die für zukünftige Forschungen in den Geistes- und Naturwissenschaften wegweisend sein können. Ziel war es mittel- und langfristige Perspektiven für eine dauerhafte wissenschaftliche Kooperation aufzuzeigen, Forschungsschwerpunkte festzulegen sowie konkrete Vorschläge zum Ausbau des internationalen Humboldt-Netzwerkes zwischen Deutschland, Italien und der Mena-Region zu erarbeiten. Das Kolleg hatte die Förderung der im Rahmen des Alumni- Netzwerk- Preises (der der Associazione Italiana Alexander 2010 verliehen wurde) geschaffenen Kooperation zum Ziel.

Die Konferenz war schwerpunktmäßig in drei Veranstaltungsblocke aufgegliedert:

1. Inter-Multikultur und Migration
2. Europa – Mena-Region
3. Hochschulwesen und Forschung-ERA
4. Energie und nachhaltige Entwicklung

Der erste Veranstaltungsblock beinhaltete vier Vorträge mit Referenten aus Deutschland, Italien und der Mena-Region zum Thema Inter- Multikultur und Migration vor.

Die zweite Sektion fand am 31. Mai mit anschließender Podiumsdiskussion statt. Sechs Redner stellten die Projekte aus dem „European Strategy Forum on Research Infrastructures“ im Hinblick auf eine mögliche Kooperation zwischen Europa und der Mena-Region vor. Anschließend fand eine Postersession zu Möglichkeiten und Grenzen der Etablierung eines im Mittelmeer zentrierten Bildungs- und Forschungsgebiets (im Einklang mit der finanziellen Unterstützung des im Juni 2010 der Associazione Italiana Alexander von Humboldt für drei Jahre gewährten Alumni-Netzwerk-Preises) statt. Darauf folgte die Generalversammlung der Associazione Humboldt Italia.

Am 1. Juni 2013 wurde der dritte Themenblock Fragen der Energie und der nachhaltigen Entwicklung mit dem Schwerpunkt Mena-Region mit anschließender Podiumsdiskussion, in der die erreichten Ziele und Zukunftsperspektiven aufgezeigt wurden.

Das Schlusswort wurde vom Präsidenten der Associazione Italiana Alexander von Humboldt gehalten.

Vorhergehende Tagungen der Associazione Italiana Alexander von Humboldt:

2003 im Centro Italo-Tedesco Villa Vigoni, in deren Verlauf die Associazione neu gegründet wurde.

2005 an der Università di Verona, dem Thema der Interdisziplinarität der Begriffsgeschichte gewidmet.

2007 an der Università di Trieste, mit dem Titel „Grenzen der Wissenschaft im XXI Jahrhundert, wissenschaftlicher Dialog im neuen Europa“ (Frontiere della conoscenza nel XXI secolo, Scienze in dialogo nella nuova Europa).

2009 an der Università di Pisa, „Ziele und Wege interkultureller Kooperation“.

2011 an der Accademia Nazionale dei Lincei aus Anlass des 150.-jährigen Jubiläums der italienischen Staatsgründung zum Thema „Aufbau des Nationalstaates in Italien und Deutschland und seine zukünftigen Perspektiven“.

Giacomo de Angelis

General Secretair des Associazione Italiana Alexander von Humboldt

Ludwig M. Eichinger

IDS Mannheim, Germany

Migration und Sprache(n) in modernen europäischen Gesellschaften.

Am Beispiel der Bundesrepublik Deutschland¹

1. Einige historische Vorbemerkungen

In der Idee des Nationalstaates, wie sie im 19. Jahrhundert modern und prägend wurde, hat so etwas wie Migration keinen systematischen Status. Wie man am deutschen wie am italienischen Beispiel besonders klar sehen kann, zielte seine Konstruktion nicht darauf, Differenz zu organisieren. Vielmehr ging es darum, eine oft mehr behauptete als vorhandene Einheitlichkeit zu schaffen. Überkommene Modelle, mit Differenz fertig zu werden, verloren dabei sichtlich und zunehmend schneller an Deutungsmacht. Gerade hier in Venedig liegt es nahe, in diesem Kontext auf die österreichisch-ungarische k. und k. Monarchie und ihr Sprachenregiment hinzuweisen.² An der Entwicklung dieses Reichs und den Separierungstendenzen, die sich in seiner Geschichte Raum greifen, sieht man, dass auch die Minderheiten in diesem Reich ihr Recht nicht im Rahmen eines mehrsprachigen plurinationalen Gebildes suchen, sondern mit aller Energie und unter Einsatz aller Mittel auf die Lösung der Probleme in einem eigenen nationalen Staat zielen. Die Schwierigkeiten, die man sich damit einhandelt, kann man bis heute in praxi beobachten – als eher westeuropäischer Bürger betrachtet man ja manchmal die Prozesse der Staatenbildung im ehemaligen Jugoslawien nicht nur mit einigem Erstaunen, sondern auch mit Déjà-vu-Erlebnissen bezüglich eines nationalen Diskurses, mit dem gerade wir Deutsche im letzten Jahrhundert genug schlechte Erfahrungen gemacht haben.

Aber vielleicht ist der Nationalismus eigentlich im 19. Jahrhundert nur eine schlechte Rechtfertigungsstrategie für drei andere Punkte.³ Es scheint für die Strategie einer Konstruktion von Nationalstaatlichkeit gute Gründe gegeben zu haben, die den eigentlich nationalen Kern dieser Tendenz deutlich relativieren. Zum ersten erforderte die Modernisierung der europäischen Gesellschaften – man mag hier an die

¹ Bei dem vorliegenden Beitrag handelt es sich um eine leicht erweiterte Version der Vortragsfassung; das Thema Migration und Sprache war aber auch Thema der Jahrestagung 2012 des Instituts für Deutsche Sprache; in den Beiträgen des Jahrbuchs des IDS, das die Ergebnisse dokumentiert (Deppermann (Hg.) 2013), wird eine Vielzahl der hier nur angerissenen Punkte ausführlich besprochen und dokumentiert.

² Vgl. Goebel (2008, S. 119/120).

³ Dafür spricht auch, dass noch lange Zeit nicht ganz klar ist, was eigentlich das „Deutsche Reich“ ausmacht; vgl. Osterhammel (2009, S. 581).

Stichworte 'Industrialisierung' und 'Verstädterung' denken⁴ – die Entwicklung eines interaktiven kommunikativen Netzwerks über die herrschenden Eliten hinaus. Zum zweiten war die damit verbundene Über-einkunft auf die Nationalsprache auf jeden Fall in Deutschland letztlich auch untrennbar verbunden mit der Durchsetzung bürgerlich-republikanischer Diskurse, in denen das Bildungsbürgertum einen entscheidenden Platz einnahm.⁵ Zum dritten hatte sich das argumentative Umfeld dahingehend gewandelt, dass es nicht mehr, wie in den beiden Jahrhunderten davor, um die Gleichstellung des Deutschen mit der europäischen Leitsprache Französisch ging, sondern – auf jeden Fall seit der Begründung des Deutschen Reiches im Jahr 1871 – um die Verteilung der „imperialen“ Ansprüche der großen europäischen Sprachgemeinschaften, bei denen letztlich der Erfolg im Geschäft des Kolonialismus die entscheidende Rolle spielte (gefolgt vom Aufstieg der USA im 20. Jahrhundert).⁶ Nun mag das Irritierende daran sein, dass eben dieses 19. Jahrhundert der Zeitraum großer Auswanderungsbewegungen v.a. in die USA war. Aber wie schon ein Terminus wie „Aus-Wanderung“ andeutet, ist mit der folgenden Ein-Wanderung selbstverständlich eine gewisse Ein-Passung in das neue Land und seine kommunikativen Bedingungen verbunden.⁷

2. Zur Gegenwart

Wir können für unser Thema die erste Hälfte des 20. Jahrhunderts überspringen – auch wenn es im Kontext der großen beiden Weltkriege zweifellos Zeiten der Vertreibung und Flucht sowie von Umsiedlungen gab. Aber das ist ein anderer Bereich.

Virulent wird das Thema Migration – übrigens auch da noch nicht unter diesem Terminus – in den europäischen Gesellschaften in den letzten Jahrzehnten; für die Bundesrepublik Deutschland heißt das seit den frühen 1960er Jahren, beginnend mit der Suche nach Arbeitskräften auf der einen, nach Arbeitsplätzen auf der anderen Seite. Nach Deutschland kamen damals größere Mengen von Menschen aus europä-

⁴ „[Stadtbewohner] waren [1910] fast zwei Drittel aller Staatsbürger, nachdem bis 1871 noch vierundsechzig Prozent in Landgemeinden gelebt hatten. [...] 1871 hatte es nur drei Großstädte mit mehr als 200 000 Einwohnern gegeben: Berlin, Hamburg und Breslau. 1913 waren es bereits dreiundzwanzig. Unter ihnen lag [...] Berlin an der Spitze, das mit einer in Europa beispiellosen Expansion von 1871 = 826 5000 [...] auf 1914 = 2,07 Millionen Einwohner anstieg – dabei wurden bis 1920 die riesigen Vorstädte nicht einmal mitgezählt. Weitere fünf Städte hatten bis dahin die Schwelle von mehr als einer halben Million Bewohnern überschritten: München (596 590), Leipzig (589 800), Dresden (548 300), Köln (516 500) und Breslau (512 100)“ (Wehler 1995, S. 512/13).

⁵ „Im Bildungsbürgertum behielt die verstaatlichte Intelligenz der höheren Beamtschaft ihren unverschleierte politischen Einfluß [...] Sie erlebte sogar eine neue Aufwertung, als das weltweit als Modell betrachtete Wissenschaftssystem ausgebaut wurde“ (Wehler 1995, S. 714).

⁶ „Die deutsche Sprache wurde nur in bescheidenem Ausmaße kolonial verbreitet und ist in Afrika ohne nennenswerte Nachwirkung geblieben. Sie stärkte aber in der Folge der Reichsgründung von 1871 und des andauernden literarischen und wissenschaftlichen Ansehens, das sie seit dem 18. Jahrhundert genoss, ihre Stellung in Ostmitteleuropa. Sie blieb Verwaltungssprache des Habsburgerreiches und gehörte bis zum Ende der Zarenzeit neben dem Französischen und dem Lateinischen zu den wichtigsten Sprachen, in denen die gelehrte Welt Russlands kommunizierte“ (Osterhammel 2009, S. 1109).

⁷ Vgl. Osterhammel (2009, S. 237/238).

ischen Ländern – aus Italien, Spanien, Portugal zunächst –, die als Gastarbeiter verstanden werden.⁸ Und mehr noch galt für die allmählich zahlreicher werdenden „Einwanderer“ aus der Türkei, dass sie so verstanden wurden, und sich auch selbst so verstanden. Wie das Wort 'Gastarbeiter' sagt, stand die Idee eines zeitweiligen Aufenthalts im Vordergrund, und wie gesagt, auch zu großen Teilen bei den Personen und Familien, die den Weg nach Deutschland gesucht hatten. Verbunden damit blieb eine sehr starke Bindung an die Herkunftskultur und die mit ihr verbundenen Lebensgewohnheiten, die sich in der Ausbildung entsprechender subkultureller Netzwerke niederschlug. In den letzten beiden Jahrzehnten wurde nun zunehmend klar, dass es sich entgegen diesen ursprünglichen Annahmen nicht um ein Phänomen des vorübergehenden Kommens und Gehens handelt. Im Gefolge dessen haben wir es zum Teil auf jeden Fall schon mit drei Generationen immigrierender Familien zu tun – den von der Statistik nunmehr seit einigen Jahren so genannten „Menschen mit Migrationshintergrund“. Bei diesen Verhältnissen werden dann auch das generellere Konzept von Migration und dieser Terminus zum Namen für das, was hier in modernen westlichen Gesellschaften geschieht. Das hat auch Folgen für das Handeln der Politik, erst im ersten Jahrzehnt des 21. Jahrhunderts werden die konkreten Folgerungen daraus gezogen, es gibt dann in Deutschland ein Zuwanderungsgesetz,⁹ es gibt verpflichtende Begleitmaßnahmen zur sprachlichen Integration, die damit verbundenen Herausforderungen vergrößern sich mit den Phasen wachsender Freizügigkeit im erheblich nach Osten vergrößerten EU-Raum. In diesen Kontext gehört, dass es zumindest in Deutschland eigentlich erst seit Mitte der 2000er Jahre belastbare Zahlen zur Größenordnung und Verteilung der entsprechenden Bevölkerungsgruppen gibt. Seither fragt die amtliche Statistik in den Erhebungen des sogenannten Mikrozensus nach „Personen mit Migrationshintergrund“ – übrigens eine zu Unrecht häufig verspottete Formulierung.¹⁰

3. Fragen der Größenordnung und der sprachlichen Folgen

Hier zeigt sich nun, dass Migration keine Randerscheinung in einer modernen Gesellschaft wie der Bundesrepublik Deutschland darstellt. Nach den Zahlen des Jahres 2011 haben über die gesamte Bundesrepublik hin 19% der Bevölkerung einen Migrationshintergrund; dabei liegt der Anteil im Gebiet der ehemaligen DDR unter 5%, den höchsten Anteil in einem Flächenland hat Baden-Württemberg mit 26%. Städte mit einer gewissen (wirtschaftlichen) Anziehungskraft liegen deutlich darüber, so sind es in Frankfurt am Main etwa 42%, auch in Mannheim, der Stadt, aus der ich komme, liegt der Wert bei 39%, in

⁸ Vgl. die frühe Untersuchung von Clyne (1968); schon anders akzentuierend z.B. Klein (1975), eine Publikation zum Heidelberger „Pidgin-Deutsch“-Projekt; s. auch Eichinger (2013, S. IX-XI).

⁹ S. Zuwanderungsgesetz (2004).

¹⁰ Seit dem Mikrozensusgesetz von 2004 (MZG 2005) wird bei „Personen mit Migrationshintergrund“ – einem offenkundig amtssprachlich nützlichen Oberbegriff – nach vorheriger Staatsangehörigkeit und ggf. Jahr der Einbürgerung gefragt.

Berlin zum Beispiel bei etwa 25%.¹¹ Das hat verschiedene Konsequenzen, die nicht zuletzt die soziale Entwicklung dieser Bevölkerungsgruppen betreffen. Die Herausforderungen, die sich hier stellen, liegen an der notwendigen Einbettung in eine Gesellschaft vom modernen säkularen Typ, eine gewisse Anpassung, die für gesellschaftlichen Erfolg unter diesen Umständen nötig ist. Das betrifft gerade Fragen einer erfolgreichen Teilnahme an den Angeboten des allgemeinen Bildungswesens mit ihren sprachlichen Folgen und dem berechtigten Streben nach der Bewahrung der eigenen Identität, deren Aufrechterhaltung zum Teil durch eine Abschottung gegenüber der Umgebungsgesellschaft gesucht wird, was sich in einer gewissen Ethnisierung der Lebenswelten in bestimmten Stadtvierteln niederschlägt.

Dieses Zusammenleben in städtischen Gesellschaften bringt vielfältige Situationen von Sprachkontakt und vielfältig abgestuften Sprachbiografien zuwege.¹² Sie stellen unter den genannten Umständen nicht einen vorübergehenden „Störfaktor“ dar, sondern sind als Phänomene moderner Stadtsprachen ein integraler Teil der sprachlichen Variation in unseren Gesellschaften, die im Hinblick auf die verbindende Geltung der nationalen Sprache eine erhebliche Herausforderung darstellt. Das gilt unabhängig davon, ob man die öffentlichkeitswirksamen Realisierungen solcher sprachlicher Interaktion für einen Teil des Deutschen hält¹³ oder für einen vor allem in jugendlichen städtischen Subkulturen gewählten sozialen Stil. Für die gleichberechtigte Teilnahme am gesellschaftlichen Leben ist die Fähigkeit, in gewissem Umfang „neutrale“ schrift- und sprechsprachliche Stile zu beherrschen, essenziell. Wie man das für einen möglichst großen Teil der Bevölkerung erreicht, ist umstritten, also praktisch etwa, ob es besser ist, auf die Bedingungen dieser Gruppen zugeschnittene Schulangebote einzurichten oder möglichst zügig auf die Einfügung in das „gewöhnliche“ muttersprachorientierte Schulsystem zu dringen. Wenn man nicht nur auf die großen ethnischen Gruppen schaut – in unserem Fall türkisch- und polnischstämmige Personen – wird man sich allerdings schwer tun, für alle Gruppen in entsprechender Vielfalt Einzelsysteme zu Wege zu bringen.

Auf welchem Wege auch immer diese gesellschaftliche Überbrückungsfunktion gelingt, vom Erfolg solcher Maßnahmen hängt auch die Akzeptanz eigenständige Merkmale zeigender Gruppen von „migrantischer“ Bevölkerung in der Mainstream-Gesellschaft ab. Erfreulich ist in diesem Kontext, dass die Konflikte auf dieser Ebene in den Regionen relativ gering sind, in denen die Zahl der Menschen mit Migrationshintergrund groß ist, während sich vor allem auch die extrem nationalistisch agierende Abwehr vorzugsweise aus den Regionen rekrutiert, in denen eigentlich die Migration wenig sichtbar – aber dann vielleicht umso auffälliger – ist. Im Sinne der säkularen demokratischen Ideale, die Europa vertritt, ist zudem bemerkenswert, dass auch innerhalb der Migrantengruppen der Anteil der an einem liberalen Staat und seinen Möglichkeiten interessierten Gruppen wächst, Gruppen von Personen, die ihre interkulturelle Einbettung, ihre Fähigkeit zur vielfältigen sprachlichen und kulturellen Variation als einen Vorteil im Spiel

¹¹ Alle Zahlen nach Statistisches Bundesamt (Hg.) (2011).

¹² Beispielhaft seien zwei einschlägige Arbeiten aus dem Forschungsumfeld des IDS genannt: Keim (2008) und Cindark (2010).

¹³ Wie Heike Wiese (2012), die es als „Dialekt“ versteht, was zu erheblichen Diskussionen geführt hat; s. Wiese (2013, S. 55), Auer (2013, S. 36-38).

gesellschaftlicher Interessen sehen. Das Ziel einer vernünftigen Politik unter diesen Umständen muss sein, diese Ebene einer wenig ideologisch belasteten Interaktion zu stärken, um so die Extreme auf beiden Seiten kenntlich zu machen.

Man kann diese Anforderung als einen doch möglichen Kompromiss zwischen zwei als unvereinbar betrachteten Positionen verstehen, die in diesem Kontext vertreten werden. Die eine Seite ist die, die den grundsätzlichen Nutzen der kulturellen Vielfalt betont, und so auf „integrierende“ Eingriffe möglichst verzichten möchte.¹⁴ Auf der anderen Seite stehen – in der Soziologie durchaus an zentraler Stelle vertretene – Auffassungen, die davon ausgehen, dass der explizite Bezug auf die verschiedenen Herkunftskulturen eher ein Hemmnis für ein angemessenes Interagieren in modernen Gesellschaften darstellen und die so für ein Aufbrechen der verschiedenen Herkunftsviertel im Hinblick auf den Bildungserfolg plädieren.¹⁵ Kompromisse zwischen diesen beiden Polen können durchaus unterschiedliche Gestalt haben, vermutlich braucht es für unterschiedliche Situationen auch unterschiedliche Antworten,¹⁶ um die moderne westeuropäische Staaten prägenden Werte- und Rechtssysteme einerseits und den Anspruch auf gruppenbezogene Identitäten im Sinne einer aufgeklärten Demokratie in einen vernünftigen Ausgleich zu bringen.

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¹⁴ S. dazu etwa Nassehi (2003).

¹⁵ Prominent für diesen Ansatz steht Esser (2006).

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The commitment of the European Academies to the cultural development of Mediterranean Africa

Several important European Academies, had since long time important commercial and economical relationships with the African Countries situated on the coast of the Mediterranean sea. This is particularly true for the French Académie de France and The Italian Accademia Nazionale dei Lincei. The Spanish Real Academia de Ciencias Exactas, Físicas y Naturales, owing to its past history and to its interests in Latin America has been less involved in the past with the colonization of Africa and has only marginally influenced the development of African Countries, despite of the fact that in geographical location, Spain is the nearest European power to Africa and that one can almost swim from North Africa to the Spanish mainland. Considering that Spain is so geographically near to Africa, the Spanish language should have been much more widespread in Africa than it is. And yet there are by far more speakers of English, French, Italian, Portuguese and Afrikaans in Africa than there are speakers of the Spanish language.

Among the relevant factors for the marginal influence of Spain in Africa, for the very limited diffusion of the Spanish language and for the not too significant efforts of Spain to contribute to the civilization of the African continent, the most important is probably that Africa's economic potential was grossly underestimated before the nineteenth century. European appetites were aroused more by the potentialities of the Americas. When Spain built its immense empire in the Americas, Africa was important more for the Western slave-trade than for European colonization. Spain was more mesmerized by the lure of gold in the Americas than gold and diamonds in Africa. There was a European scramble for the Americas long before there was a European scramble for Africa.

On the contrary the French Académie and the Italian Accademia dei Lincei have been strongly involved in the development of the high school and university organization, as well as in the improvement of medical care, agriculture and political stability of the population of North Africa, in particular of those living in the Maghreb region, extending between the Atlas Mountains in the south and the Mediterranean Sea and including the Western Mediterranean region of coastal North Africa in general, and in particular Algeria, Morocco, Libya and Tunisia, although these relationships extend in some particular cases also to southern African countries as for instance Ethiopia, Uganda, Kenya and South Sudan.

Partially isolated from the rest of the continent by the Atlas Mountains and the Sahara desert, inhabitants of the northern parts of the Maghreb have had since a long time commercial and cultural ties essentially to the inhabitants of the Mediterranean countries of Southern Europe and Western Asia, going back as far as to the Phoenicians in the 1st millennium BC when the Phoenician colony of Carthage was founded.

The Maghreb region was somewhat unified as an independent political entity during the rule of the Berber kingdom of Numidia, which was followed by Roman Empire's rule or influence. The Roman colonization was followed first by the brief invasion of the Germanic Vandals, then by the equally brief re-establishment of a weak Byzantine rule by the Byzantine Empire and finally by the rule of the Islamic Caliphates under the Umayyads, the Abbasids, and the Fatimid's. The most enduring rule was that of the local Berber Muslim empire. The Ottomans, ruled a small part of the region too, although sometimes only nominally.

For the non-Italian section of the public attending this lecture I wish to recall that Carthage was founded, according to tradition, in what is now Tunisia around 800 BC by Canaanite-speaking Phoenician colonists from Tyre and became a large and rich city and thus a major power in the Mediterranean area. The resulting rivalry with Syracuse, Numidia, and Rome was accompanied by several wars with respective invasions of each other's homeland. The power of Carthage and in particular of its navy that dominated the traffic in the Mediterranean sea for long time is testified by Hannibal's invasion of Italy in the Second Punic War culminated in the Carthaginian victory at Cannae leading to a serious threat to the continuation of Roman rule over Italy. However, Carthage emerged from the conflict weaker after Hannibal's defeat at the Battle of Zama in 202 BC. Following the Third Punic War, the city was destroyed by the Romans in 146 BC. Later, however, the Romans refounded Carthage, which became the empire's fourth most important city and even the capital of the short-lived Vandal kingdom. It remained one of the most important Roman cities until the Muslim conquest when it was destroyed a second time in 698 A.C.

The contribution of maghrébin personalities to the culture of Italy is testified by the fact that Masinissa (c. 240 or 238-c.148 BC) the first Arabic King of Numidia of Berber origin, was a Roman general in the battle of Zama in Algeria and that two Roman Emperor Lucius Septimius Severus (145–211), born in Leptis Magna, located in Khoms (Al Khums) on the coast east of Tripoli and his eldest son, the emperor Caracalla, were of Maghrebian origin. Among the several Maghrebians that contributed to the power and the culture of the Roman civilization we shall quote only few names well known to the large public, including that of Saint Augustine, born in Thagaste Numidia (now Souk Ahras, Algeria), that of the famous Latin writer Apuleius (c.125–c.180), a Numidian Berber from Madaurus (now M'Daourouch, Algeria) that of the Latin, theologian and jurist Tertullian (160-225) from Carthage, as well as that of the medieval philosopher Averroes (1126-1198) hailing from Córdoba, Al-Andalus. The strong connection between Italy and North Africa con-

tinued with the Arabic invasion of Sicily and with the successive establishment of the kingdom of Frederick II (1194–1250), one of the most powerful Holy Roman Emperors of the Middle Ages and head of the House of Hohenstaufen. As a consequence, the contribution of North African populations to that of Sicily is today estimated to be about 6-8% of the total, showing a non negligible "genetic affinity" between Sicily and North Africa. In Italy, North African haplogroups were found especially in the Southern Italy regions including East Campania, Northwest Apulia and the territory of the town of Lucera at a frequency of 4.7% due to Frederick II's relocation of Sicilian Muslims there in the 13th century.

At the beginning of the XX century, driven by the colonialist mentality characteristic of the idea of European cultural supremacy that flew through Europe at the end of the XIX century, Italy occupied the Libyan territory proclaiming her sovereignty over Tripolitania and Cyrenaica, thanks to a series of secret agreements between Italy and other European countries like France, Germany and the United Kingdom, despite of the weak opposition of the Ottoman Empire. The annexing of Libya (a name coined by the Italian diplomats and borrowed from the old Roman conquest of North Africa) gave origin to a strong influence of the Italian economy and culture even after the formation of the Libyan kingdom of Idris I and the successive coupe d'état that brought to power the Colonel Muammar Gaddafi. The occurrence of large oil fields in Libya has attracted several important oil companies including the Italian ENI to sign agreements with the Libyan government for the extraction of oil from the ground and this has given rise to a significant cultural impact on the economical and cultural development of the country. Due to the previous colonial occupation Italian remains a widely spoken language in Libya, especially thanks today to the influence of Italian television that is the most popularly followed one, since the official "Standard Arabic" broadcast, in many respects different from the native Libyan Arabic, is often mutually unintelligible, just like the plethora of local languages in China. Although English is widely understood especially by young residents of Tripoli, older people are likely to speak Italian as a result of Libya's Italian colonial past, and even among younger people Italian is the second most known foreign language after English because of access to Italian television. Even the officially spoken Libyan Arabic language includes Italian words, such as "semaforo" (traffic light) and "benzina" (gasoline).

Since long time several Italian cultural institutions, academies, universities and even cultural private organizations are involved in the process of contributing to the economical and cultural developments of African countries. Among these particularly relevant is the role played by the Accademia Nazionale dei Lincei which in the whole XX century and especially today has been strongly involved in problems concerning the development of African populations for activities concerning medical care, water resources and high school and university education. A list of all projects developed by the Lincei would be probably annoying and it is certainly better to furnish only some significant highlight sufficient to inform the audience of the most important recent commitments of the Lincei.

The District of Gulu in Northern Uganda has benefited during recent years of a strong and successful Italian presence, which has mainly supported the health and education sectors, thanks to the collaboration of the Accademia dei Lincei with the University of Naples "Federico II" in the framework of the so called GuluNap project, started in 2003 with the support of Italian Cooperation and of the Naples Municipality. This project has contributed to the establishment of the Faculty of Medicine at the Gulu University, with joint teaching programs, building facilities and graduating more than 150 MDs until 2012, thus contributing in a significant way to the development and social progress of Northern Uganda prostrated by the long-term effects of a civil war that has seriously affected the local population. On June 2012, the Accademia Nazionale dei Lincei has actually conferred to the Gulu university, in collaboration with the Universities of Naples Federico II, a prestigious "Antonio Feltrinelli Award" for a total of 250.000 €. More recently the GuluNap project has been extended to the Faculties of Agriculture and Science, with the primary aim of addressing development issues in education, agriculture, natural resources and environmental management. Additional financial support to the development of social activities in Northern Uganda has been supplied by other Italian cooperation projects including the furniture of rice for a total value of \$ 780.000 and a financial aid of € 600.000 collected by the Neapolitan community for a three-year project of support to the sanitary local structures to facilitate the social integration of new medical doctors. The current phase of social activities in the Northern Uganda is characterized by a delicate equilibrium between a sustainable and equitable development and the potential interests of foreign investors for the natural resources of this region. In this context, education plays a crucial role to strengthen the capability of local communities of ruling the transformation process.

An additional "Antonio Feltrinelli" award of 250.000 € has been assigned by the Accademia dei Lincei in 2011 to the organization Water for Life (WFL) founded in the eighties by the Italian geologist and priest Prof. Elio Sommovilla to assist the refugees of the Ogaden region of Somalia escaping the local civil war, in order to face the water supply problem for land irrigation and for the emancipation of the farmers in the Merka and low Shabeelle regions, south-west of Mogadiscio in Somalia. The impact of the action of the members of the Water for Life structure has been so important as to save from death a local population of about 60.000 inhabitants and to breed more than 800 abandoned children. The Somali village Ayuub, the basic seat of the WFL organization, is today a visible proof of the efforts made to emancipate the local population, helping it to redeem from misery, ignorance and exploitation. In the period 1987-1991 the WFL has also trained a group of young Somali geologists to perform hydro-geological researches aimed to find solutions for the extremely high salinity of drinkable water, digging new wells in the towns, in the villages and in the meeting points for nomads. The association devotes the largest part of its energies to the orphans and the poor children of the villages to make them auto-sufficient and able to become the protagonists of their country reconstruction.

The interest of France in Africa has also a long standing tradition that originated with the idea of building a French colonial Empire formed by the set of territories that were under French rule primarily from the 17th century to the late 1960s. In the 19th and 20th centuries, the colonial empire of France was the second-largest in the world behind the British Empire. The French colonial empire extended over 12,347,000 km² (4,767,000 sq. miles) of land at its height in the 1920s and 1930s. Including metropolitan France, the total amount of land under French sovereignty reached 13,018,575 km² at the time, almost 1/10 of the Earth's total land area. Its influence made French a widely-spoken colonial European language, along with English, Spanish, Portuguese and Dutch.

The interest of France to the Mediterranean area of northern Africa started essentially after the Napoleon expedition to Egypt. At the close of the Napoleonic Wars, most of France's colonies in Africa was limited only to various trading posts in Senegal. The true beginnings of the second French colonial empire, however, were laid in 1830 with the French invasion of Algeria, which was conquered over the next 17 years. In the 19th century France's conquest of an Empire in Africa was dressed up as a moral crusade. In 1886 the French prime minister Jules François Camille Ferry (1832 –1893) declared; "The higher races have a right over the lower races, they have a duty to civilize the inferior races." Full citizenship rights - *assimilation* - were offered, although in reality "assimilation was always receding and the colonial populations was always treated like subjects, not like citizens.

It was only after the Franco-Prussian War of 1870–1871 and the founding of the Third Republic (1871–1940) that most of France's later colonial possessions were acquired. French influence was expanded in North Africa, establishing a protectorate on Tunisia in 1881 with the Treaty of Bardo signed on May 12, 1881 between representatives of the French Republic and Tunisian bey Muhammed as-Sadiq. A raid on Algeria by the Tunisian Kroumer tribe served as a pretext for French armed forces to invade Tunisia. Jules Ferry, the French foreign minister, managed to send a French expeditionary force of approximately 36,000 troops to defeat the Kroumer tribe. The French met little resistance from both the Kroumer tribe and from as-Sadiq. Eventually, the French withdrew their forces after signing the treaty. However, the terms of the agreement gave France responsibility for the defense and for foreign policy decisions of Tunisia. Henceforth, Tunis became a French protectorate.

Gradually, French control was established over much of Northern, Western, and Central Africa around the start of the 20th century, including the modern nations of Mauritania, Senegal, Guinea, Mali, Ivory Coast, Benin, Niger, Chad, Central African Republic, Republic of Congo, and the east African coastal enclave of Djibouti (French Somaliland). The explorer Colonel Parfait-Louis Monteil traveled from Senegal to Lake Chad in 1890–1892, signing treaties of friendship and protection with the rulers of several of the countries he passed through, and gaining much knowledge of the geography and politics of the region.¹

The Voulet-Chanoine Mission, a military expedition, was sent out from Senegal in 1898 to conquer the Chad Basin and unify all French territories in West Africa. This expedition operated jointly with two other expeditions, the Foureau-Lamy and Gentil missions, which advanced from Algeria and Middle Congo respectively. With the death of the Muslim warlord Rabih az-Zubayr, the greatest ruler in the region, and the creation of the Military Territory of Chad in 1900, the Voulet-Chanoine Mission had accomplished all its goals. As a part of the Scramble for Africa, France had the establishment of a continuous west-east axis of the continent as an objective, in contrast with the British north-south axis. This resulted in the Fashoda incident, where an expedition led by Jean-Baptiste Marchand was opposed by forces under Lord Kitchener's command. The resolution of the crisis had a part in the bringing forth of the Entente Cordiale. During the Agadir Crisis in 1911, Britain supported France and Morocco became a French protectorate.¹

The French made their last major colonial gains in Africa after World War I, when they gained mandates over the former Turkish territories of the Ottoman Empire that make up what is now Syria and Lebanon, as well as most of the former German colonies of Togo and Cameroon.

A hallmark of the French colonial project in the late 19th century and early 20th century was the civilising mission (*mission civilisatrice*), the principle that it was Europe's duty to bring civilisation to benighted peoples. As such, colonial officials undertook a policy of Franco-Europeanisation in French colonies, most notably French West Africa. Africans who adopted French culture, including fluent use of the French language and conversion to Christianity, were granted equal French citizenship, including suffrage. In 1848, residents of the "Four Communes" in Senegal were granted citizenship, which was reaffirmed by the Third Republic, leading to the 1914 election to the French Chamber of Deputies of Senegalese politician Blaise Diagne.

By this time French conservatives were denouncing such assimilation politics as products of a dangerous liberal fantasy. In Morocco, France's newest colony, the French administration attempted to use urban planning and colonial education to prevent cultural mixing and to uphold the traditional society upon which the French depended for collaboration, with mixed results. After World War II, the segregationist approach modeled in Morocco had been discredited by its connections to Vichyism, and assimilationism enjoyed a brief renaissance.

In 1905 the French abolished slavery in most of French West Africa. David P. Forsythe wrote: "From Senegal and Mauritania in the west to Niger in the east (what became French Africa), there was a parallel series of ruinous wars, resulting in tremendous numbers of people being violently enslaved. At the beginning of the twentieth century there may have been between 3 and 3.5 million slaves, representing over 30 percent of the total population, within this sparsely populated region."

Critics of French colonialism gained an international audience in the 1920s, and often used documentary reportage and access to agencies such as the League of Nations and the International Labor Organisation to make their protests heard. The main criticism was the high level of violence and suffering among the natives. Major critics included Albert Londres, Félicien Challaye, and Paul Monet, whose books and articles were widely read.

While the first stages of a takeover often involved the destruction of historic buildings in order to use the site for French headquarters, archaeologists and art historians soon engaged in systematic effort to identify, map and preserve historic sites, especially temples such as Angkor Wat, Champa ruins and the temples of Luang Prabang. Many French museums have collections of colonial materials. Since the 1980s the French government has opened new museums of colonial artifacts

The French colonial empire began to fall during the Second World War, when various parts were occupied by foreign powers (Japan in Indochina, Britain in Syria, Lebanon, and Madagascar, the United States and Britain in Morocco and Algeria, and Germany and Italy in Tunisia). However, control was gradually reestablished by Charles de Gaulle. The French Union, included in the 1946 Constitution of 1946, replaced the former colonial Empire.

France was, however, immediately confronted with the beginnings of the decolonisation movement. When the Indochina War ended with defeat and withdrawal in 1954, France became almost immediately involved in a new, and even harsher conflict in Algeria, the oldest major colony. Ferhat Abbas and Messali Hadj's movements had marked the period between the two wars, but both sides radicalized after the Second World War. In 1945, the Sétif massacre was carried out by the French army.

The Algerian War started in 1954. Algeria was particularly problematic, due to the large number of European settlers called *pieds-noirs* who had settled there in the 125 years of French rule. Charles de Gaulle's accession to power in 1958 in the middle of the crisis ultimately led to the independence of Algeria with the 1962 Evian Accords. The Suez crisis in 1956 also displayed the limitations of French power, as its attempt to retake the canal along with the British was stymied when the United States did not back the plan.

The French Union was replaced in the new 1958 Constitution of 1958 by the French Community. However, the French Community dissolved itself in the midst of the Algerian War and almost all of the other African colonies were granted independence in 1960, following local referendums. Some few colonies chose instead to remain part of France, under the status of overseas *départements* (territories). Critics of neocolonialism claimed that the *Françafrique* had replaced formal direct rule. They argued that while de Gaulle was granting independence on one hand, he was creating new ties with the help of Jacques

Foccart, his counselor for African matters. Foccart supported in particular the Nigerian Civil War during the late 1960s.

French law made it easy for thousands of *colons*, ethnic or national French from former colonies of North and West Africa, India and Indochina to live in mainland France. It is estimated that 1.6 million European *pieds noirs* migrated from Algeria, Tunisia and Morocco to France mainland. In just a few months in 1962, 900,000 French Algerians left Algeria in the largest relocation of population in Europe since World War II. The *pieds noirs* migration to France had also a profound influence not only on the low class workers as artisans or house builders or on the middle class of merchants and state employees, but also on the high level French intellectual elite. It is actually not a pure hazard that two members of the Académie de France, Claude Cohen-Tannoudji 1997 Nobel Laureate in physics born in Tanger and Serge Haroche 2012 Nobel laureate in physics born in Casablanca, are of Maghrébin origin. Many other famous French people like Edith Piaf of Moroccan origin, the actress and singer Isabelle Adjani, the Minister of Industrial Renewal Arnaud Montebourg, the singer Alain Bashung, the comedian Dany Boon and many others have also Maghrébin ancestry.

According to Michel Tribalat, a researcher at the Institut national d'études démographiques (INED) there were 3.5 million people of Maghrebin origin (with at least one grandparent from Algeria, Morocco or Tunisia) living in France in 2005 corresponding to 5.8% of the total French metropolitan population (60.7 millions in 2005). Maghrebis have settled mainly in the industrial regions in France, especially in the Paris region. According to INSEE (French National Institute for Statistics and Economic Studies), 16% of newborns in France between 2006 and 2008 have at least one grand-parent born in Maghreb

For over twenty years now, the French Academy of Sciences has devoted a non-negligible fraction of its international activities to reinforcing the scientific and technologic relationships between France and the African continent, thus including both the Sub-Saharan and the Maghreb countries. The Academy has organized numerous forums and conferences bringing together French and Africa scientists, focusing on general research, teaching and/or training programs, or on specific topics such as health, agriculture, nutrition, epidemiology, demography or natural resources.

In this context the COPED (Comité pays en développement) was created in 1997, with gradual extension of its activities to other regions round the world. The COPED embodies the desire of the French Academy of Sciences to contribute, via scientific development of the regions concerned, to solving major planetary problem-areas, by promoting scientific education and research projects, by hosting or supporting forums on topical issues for developing countries and by establishing and maintaining links with national and international research organizations dedicated to development.

A Capacity Building seminar was organized in 2012 in Paris at the “Institut de France” for representatives of the 17 African Academies of Sciences members of the NASAC (*Network of African Science Academies*). In addition an International colloquium to foster an European program for a network allowing researchers from developing countries to access to scientific data and collections of the European Natural History Museums. Furthermore a ANSTS-COPED conference was held in Dakar, Senegal, on the themes of Education, Scientific Research and Development in Africa. During participative round-tables and workshops, the missions of an Academy as well as the tasks which contribute to the functioning of an Academy were addressed by the seminar participants. The Officers in charge of various services and departments of the French Academy were thus able to share with their African counterparts their personal experience in running committees, in publishing Advice Notes and Recommendations as voted and issued by the Academy, organization of conferences, work-sessions for the Fellows, Prize award selections and ceremonies, communication work – press contacts, web-site, web-radio, international affairs... The Seminar also welcomed representatives of the Swiss and Dutch Academies of Sciences who were invited to talk about their own missions of institutional communication.

A very important direct filiation of the Académie de France is the EMAN (Euro-mediterranean Academy network), an autonomous network including the Academies of Science of the Mediterranean Countries, acting as a non-governmental, non-political and non-profit organization, whose mission is to promote the growth and coordination of a Mediterranean Science Area. EMAN’s fundamental mission is to foster science and culture in order to promote development and scientific excellence in the Mediterranean Region, and thereby attempt to be a driving force to human wellbeing in Countries belonging to three continents, admittedly a challenging and ambitious task. In view of its unique identity, a blend of its biogenetic unity and its cultural and biological diversity, the Mediterranean Region is an ideal laboratory for a shared scientific and technological as well as social and human development, an urgent endeavor in a global world. The general objective of the EMAN is to act as an independent Euro-Mediterranean forum to encourage the Academies of all Mediterranean Countries to cooperate and discuss the scientific aspects of problems of common concern, to prepare joint statements on major issues relevant to the development of the Mediterranean Region, and to provide mutual support to Member Academies.

Specific aims of EMAN are: to elaborate and provide advice to governments and regional organizations; to promote cooperation among the Academies in the Mediterranean Region; to built their capacity to improve their role as independent expert advisors to governments; to assist science communities to set up national independent Academies where such bodies do not exist; to organize conferences, workshops and symposia; to issue statements and prepare reports on topics of major Mediterranean concern.

The mission of the EMAN is fulfilled by the GID (Groupe Inter-académique pour le Développement) that has undertaken several concrete initiatives, including the organization of the Parmenides IV Conference

on Water and Sanitation: Health Challenges in the Mediterranean Region (Rabat, 22-24 November 2011). This followed three previous Conferences held, respectively, in Alexandria at the the Bibliotheca Alexandrina in June 2010 (Parmenides III Conference on Mediterranean wealth and diversity: biology and culture), in Rome at the Accademia Nazionale dei Lincei in October 2009 (Science and health in the Mediterranean Countries), and in Paris at the Académie des Sciences in June 2008 (Environment and sustainable development). The last Conference, Parmenides V, held in Paris on 20-21 March 2012, has been a unique opportunity to present an integrated version of the scientific, technical and cultural development in the Mediterranean, through innovation, integration, and investment.

The Mediterranean is an area of our planet endowed with unique features being at the same time the birthplace of civilization/s and the site of diversity par excellence encompassing social, cultural, ecological and political diversity. EMAN, with its center of gravity in the Mediterranean, may acquire the role of a challenging model and a laboratory for North-South cooperation for scholarship and science. IAP, the global network of science academies, has recognized to EMAN a status of Observer regional network

The first General Assembly of EMAN was held at the Bibliotheca Alexandrina, Alexandria (Egypt), on June 21st, 2010. On that occasion the General Assembly approved the Statutes of EMAN and elected the members of the Executive Committee.

Initiated by the French Académie des sciences, an academic program (called Parmenides) was also launched in order to promote collaboration between the Academies of sciences from all Mediterranean Countries, with the common mission to foster development and scientific excellence, and create a Mediterranean space of science.

The Academies from Italy, Morocco, Senegal, Spain and Turkey, along with the Bibliotheca Alexandrina (Egypt) and the Malta Council for Science and Technology, joined immediately the initiative, that was supported by UNESCO and, in France, by the Groupe Inter-académique pour le Développement (GID, Inter-Academic Group for Development) of the Académie des sciences and other French institutions (the Academies of Moral and Political Sciences, of Medicine, of Agriculture, of Technologies, and the Arab World Institute in Paris).

The goals of the Parmenides Conferences are: Promote and foster a scientific identity of the Mediterranean region; Use science as a permanent vector for development, as well as for social and economic progress; Organize excellence based inter-academic workshops focused on specific topics in S&T; Enhance continuous collaboration through the scientific academic network.

The Parmenides Conferences were held in Paris (Parmenides I, 2008), in Rome (Parmenides II, 2009), in Alexandria (Parmenides III, 2010), in Rabat (Parmenides IV, 2011), in Paris again (Parmenides V, 2012).

Another important GID initiative is the organization of a training course in Mediterranean Archaeology: This new endeavor provides an opportunity for scientific training in conservation and restoration of archaeological monuments and artifacts from the past. It is therefore conceived as a combination of frontal lectures and focused seminars by some of the greatest experts of archaeological discoveries, with practical hands-on activities in a specific and suitably chosen archaeological site in Rome. The Scientific-Organizing Committee of the course is composed of eminent archaeologists and personalities of international standing under the chairmanship of Prof. Louis Godart, Linceo. The training course, organized by the Accademia Nazionale dei Lincei, will be held partly in the headquarters of the Academy and partly at a specific archaeological site in Rome.

Furthermore in November 2011 EASAC (European Academies Science Advisory Council) has issued a policy report on concentrating solar power in order to evaluate its potential contribution to a sustainable energy future and to foster the economic and technical progress of this new technology and its eventual deployment in Mediterranean African countries. Given the significance of discussing the findings and prospects at a Mediterranean scale, GID-EMAN has organizing a training course on this topic. The main drive lies in the potential value to utilize solar power in European and African countries and the foreseeable transfer of energy from Africa to Europe. The meeting held in Seville from 19 to 23 November 2012 has been initiated by the profs. Albert Sasson and Francisco García Novo, and organized by Prof. Mahfoud Ziyad (Hassan II Academy of Science and Technology) and by Prof. Valeriano Ruiz Hernández (Escuela Superior de Ingenieros of Seville, and associate member of the Hassan II Academy. Attendees came from various countries of the southern and northern shores of the Mediterranean (Morocco, Portugal, Egypt, France, Italy, Serbia, Malta, Spain). On November 22, visits to the solar facilities of Abengoa (Solucar, in Sanlucar la Mayor) and Torresol Energy (Gemasolar, in Fuentes de Andalucía) were carried out. Participants could experience the normal operation of two of the most developed types: the central tower and the parabolic mirror system.

An important Franco-Algerian cultural collaboration started in Paris in 1966 in the framework of the so called Académie berbère, a cultural association created at Paris, during a meeting held at the house of Taos Amrouche, sister of the Berbère writer and militant Jean Amrouche. This French-Algerian association organized in the framework of the 1901 law, was established by a group of young Kabyle intellectuals, including Rahmani Abdelkader, Mohand Said Hanouz, Naroun Amar, Khelifati Med Amokrane, Marguerite Taous Amrouche, Mohand Arab Bessaoud but was dissolved in 1978, owing to the pressure exerted by the Algerian Government on France. The French- Algerian cultural cooperation was, however, reorganized in the framework of a cultural, scientific convention signed on December 2007 and of the Document « Cadre de Partenariat (DCP) », defining three basic cooperation directions : reinforcement of the human capital; economical development of productive operations ; modernization of the public sector and reinforcement of a decentralized cooperation. A new protocol DCP has therefore been signed for

a 5 years period in the occasion of the visit of the president of the Republic was signed for a period of 5 years I the occasion of the visit of the French “Président de la République”. Algeria is today one of the principal beneficiary of the credits of the French cooperation, amounting to about 12 M€ in 2011). In this agreement it was specified that « notre coopération universitaire s’attache à accompagner la réforme LMD (Licence, Master, Doctorat) avec la mise en place de masters professionnels ; à la formation des enseignants-chercheurs ; à la mise en place de pôles d’excellence (Ecole supérieure algérienne des Affaires ; Ecole Supérieure de Technologie ; classes préparatoires) ; à l’amélioration du système éducatif et de la formation professionnelle.

To conclude my exposition I wish to point out the tragic destiny today of African migrants to many European countries, in particular to Italy. More than 20,000 boat people have for instance landed on the Italian island of Lampedusa this year, almost all of them from Tunisia while more than 800 have arrived in Malta, mostly from Libya. Many people from poor African countries embark on a dangerous journey for Europe, in hopes of a better life. In parts of Africa, particularly Mauritania and Morocco, trafficking of immigrants to Europe has become more lucrative than drug trafficking. Unfortunately several illegal immigrants die during the journey and most of them who don't get asylum get deported back to Africa.

Undoubtedly migration from Sub-Saharan Africa to Europe has generated increasing international public and political attention, although the flotilla of boats migrants to the Canary Islands or the attempts to reach Spanish territory in Ceuta and Mellila have drawn a feeble response from Europe. The scope, nature and likely development of Sub-Saharan African migration to Europe remains actually poorly understood and European policy has been up to now very ineffective, even more than expected from the most pessimistic point of view. A major cause of this lack of understanding is the absence of comprehensive data on the causes of migration and circulation between Africa and Europe, but I am afraid that the situation is not going to improve in the near future without the help of a strong action from the European countries. The only organization that seems really involved in the problem is the United Nation refugee agency UNHCR, but its action seems unable to influence the European governments.

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Ipotesi linguistiche fra Mediterraneo e Baltico orientale

1. Premesse

Le lingue che si affacciano sui due principali mari chiusi d'Europa – il Mar Mediterraneo ed il Mar Baltico – sono state a più riprese e in vario modo coinvolte in ipotesi linguistiche, talora totalizzanti, talaltra specifiche, che generalmente riguardano la protostoria o comunque la storia più antica del Vecchio continente.

Queste ipotesi poggiano su di un crocevia – come recita il titolo del nostro convegno – che (sebbene generalmente conosciuto meno di altri) è stato però cruciale nella più antica storia europea e che ha collegato quelle che, in seguito a tante vicende storiche, e fino a pochi decenni fa, sono divenute l'Europa occidentale e l'Europa orientale. Pertanto, non sarà né inutile né privo di interesse ripercorrere vicende antiche, eppur sempre attuali, che tendevano a unire invece che a dividere.

Ho intenzione di illustrare di seguito due-tre ipotesi linguistiche e poi di concentrarmi su un caso di studio toponomastico, cioè di un nome di luogo per altro a tutti ben conosciuto.

Le ipotesi linguistiche di cui si tratterà si possono ben definire, senza tema di smentita, come le 'teorie classiche' della protostoria linguistica europea. Quella probabilmente più nota va sotto il nome di teoria (indo-)mediterranea e ha trovato i suoi maggiori sostenitori all'interno della scuola linguistica italiana. L'altra è invece la cosiddetta Teoria antico-europea (meglio nota come *Alteuropatheorie*) che invece contò i suoi natali e i maggiori favori all'interno della scuola linguistica tedesca.

2. Schizzo della teoria (indo-)mediterranea

Conviene dunque prendere le mosse dalla cosiddetta teoria (indo-)mediterranea, una teoria che si colloca nel quadro di conoscenze offerte dalla linguistica indoeuropea tradizionale, come investigazione sul sostrato, e che ha acquistato vigore soprattutto nel secondo dopoguerra; è una nozione rilevante per il suo esplicito e coerente riferimento alla dialettica 'lingua ~ cultura' proiettata in un contesto geografico.

Ora, va detto che l'ipotesi mediterranea non si caratterizza certamente per particolari rapporti privilegiati coll'area baltica orientale; però è interessante sapere che, secondo Giovanni Alessio (1947), «popolazioni preindoeuropee parlanti lingue anarie» avrebbero dimorato nell'area baltica. Veniva così posta la questione dell'esistenza di un'«oasi linguistica preindoeuropea» (sostrato preindeuropeo) nella regione baltica orientale che sarebbe affiorata — sempre secondo Alessio, con particolare evidenza — in certi elementi linguistici attestati nelle regioni baltiche che avevano corrispondenze specifiche nell'area mediterranea.

Una tale oasi linguistica preindoeuropea sarebbe stata testimoniata in particolare da idronimi (come per es. i nomi di fiume: *Jūra*, *Minija*, *Nava*, *Neris*, *Samava*, *Šumina*, ecc.), ma anche da certo lessico appellativo specifico delle lingue baltiche.

Per citare solo alcuni degli esempi portati da Alessio: (1) lituano *korỹs* «favo», lettone *kāre*, entrambi da riconnettere con la coppia egeo-tirrenica greco κηρός, lat. *cēra*; (2) lettone *brīedis* «cervo», da ricondurre a una base mediterranea **brento-* «corno», che ritornerebbe in una serie di fitonimi («lattuga appetita dal cervo»), toponimi, e perfino nel prussiano *ragingis* «cervo (= il cornuto)»; oppure ancora (3) lettone *eĩms* «buffone», senza corrispondenti nelle altre lingue i.e. e così ricondotto all'etrusco ἀπίμος, ed altri casi analoghi.

Per Alessio e per i sostenitori dell'esistenza di un'«oasi mediterranea nella regione baltica», la trattazione del materiale baltico in questa particolare prospettiva serviva a «mostrare che i popoli parlanti lingue mediterranee avevano occupato un'estensione maggiore di quella che è loro generalmente riconosciuta», e a confutare le coeve opinioni di Devoto (che preferiva parlare per le regioni baltiche di «un'antichità più remota» di quella dell'India, dell'Asia Minore e della Grecia) e di Pisani (che tendeva a spiegare tali fatti piuttosto come prestiti giunti dal Mediterraneo fino sulle coste baltiche — come si vedrà meglio fra poco).

La conclusione tratta da Alessio (1947, p. 166) era invece che, «una volta ammesso che genti linguisticamente affini a quelle preindoeuropee del bacino del Mediterraneo abbiano abitato anche la regione baltica, non è necessario costruire delle supposizioni che non possono essere confermate da dati di fatto». Tuttavia questo ragionamento, proprio per l'esplicito richiamo ai dati di fatto, pare di quelli circolari... In base alle ricerche lessicologiche condotte in Lituania e Lettonia nei non pochi anni intercorsi dalla pubblicazione del contributo di Alessio fino ad oggi, si vede infatti che i confronti proposti non reggono a un'analisi più attenta e sono facilmente confutabili alla luce delle conoscenze più aggiornate.

Così, per le parole su riportate, i repertori etimologici (*LEW*, *LVV*, *SEJ*) preferiscono ora piuttosto spiegazioni endobaltiche, e disconoscono l'ipotesi mediterranea, sia per il lituano *korỹs* e il lettone *kāre(s)*, sia per il lettone *brīedis* che viene ricondotto (con una trafila: balt. or. **bried-* < protobalt. **breid-* < i.e.

**bhreidh-*) alla radice **bher-* «gonfiarsi». Anche per il lettone lett. *eĩms* non vale più l'accostamento con l'etrusco; bensì è considerato un prestito dal medio nederlandese *erm, eerm* «povero».

La successiva ricerca sul sostrato mediterraneo non ha più mostrato un interesse per l'area baltica della stessa specificità e densità come nello studio di Alessio.

Gli sporadici contributi che anche in seguito hanno chiamato in causa il Baltico orientale – come Pisani (1970) sul nome del «cefalo», oppure Mastrelli (1967, 1970) sulla terminologia del governo del timone e sul nome della «salacca» – sono confluiti, insieme a molte altre originali ricerche, nell'opera d'insieme sul sostrato mediterraneo firmata da Silvestri (1976; cf. anche 1985-1986, p. 591), il quale inoltre ironizzò su «certe incursioni di 'sudisti' [leggi: Alessio], magari intesi a ritrovare suggestive quanto improbabili 'oasi mediterranee' in aree di fredda o freddissima settentrionalità...»

3. Schizzo della teoria antico-europea (*Alteuropatheorie*)

La teoria sull'Europa antica, meglio conosciuta come *Alteuropatheorie*, è legata al nome dello studioso tedesco Hans Krahe (1957, 1964), di Tubinga, cui si deve la sua prima formulazione fra gli anni Quaranta e Cinquanta del secolo scorso. Essa intende studiare in maniera sistematica l'idronimia antico-europea, cioè i nomi di acque ferme e mosse che solcano il continente.

In termini molto generali, si può provare a sintetizzare tale teoria in pochi assunti essenziali: l'idronimia antico-europea mostra una stratificazione storica e conosce un'ampia espansione geografica su territori dove si parlano (o si parlavano) lingue i.e. nel cuore del vecchio continente: dall'Europa centrale fino al Baltico; sarebbe invece meno rappresentata nelle penisole scandinava, iberica e italiana.

Secondo Krahe un idronimo per esser considerato *alteuropäisch*, antico-europeo, deve soddisfare sia condizioni di ordine strutturale (cioè consistere di un elemento lessicale e di un elemento flessivo, ed avere tutti i componenti di eredità i.e.), sia condizioni di ordine semasiologico (cioè derivare dal campo semantico dell'acqua e delle sue proprietà).

Massimalizzando i dati ricavati, Krahe suppose per la fase più antica dell'Europa uno stadio linguistico chiamato *Alteuropäisch*, relativamente unitario, accertato nel settore onomastico (soprattutto idronimico) e solo postulato per quello linguistico-appellativo. L'idronimia antico-europea è considerata di notevole antichità (la sua formazione viene fatta risalire alla seconda metà del II millennio a.C.). Krahe identificò la comunità linguistica antico-europea con l'antecedente delle lingue storiche attestate in questa stessa area e ritiene che tale unità si lasci ancora osservare in epoca storica.

Dopo Krahe la teoria antico-europea ha conosciuto un innovativo sviluppo grazie a Wolfgang P. Schmid (1966a, 1968 et al.), di Gottinga, che, pur partendo dagli stessi assunti del suo maestro Krahe, è pervenuto a conclusioni molto diverse.

Riassumendo brutalmente le conclusioni di Schmid, si ritiene ora che non sarebbe mai esistita nel centro dell'Europa una lingua più giovane dell'indoeuropeo, e che l'antico-europeo individuato su base idronimica altro non sarebbe che l'indoeuropeo stesso, anteriore alla divisione *centum* ~ *satəm* (come proverebbero in positivo anche una serie di corrispondenze lessicali e grammaticali ricavate dall'idronimia indo-iranica). Ne è conseguito che gli idronimi antico-europei vanno trattati con metodologia indoeuropea.

Le asserzioni dello Schmid sono evidentemente gravide di implicazioni teoriche. Una volta considerata valida l'equazione *Alteuropäisch* = indoeuropeo, definire i confini geografici dell'idronimia antico-europea equivale a tracciare i confini della *Urheimat* della lingua i.e. comune; lo studio dell'idronimia antico-europea ha acquistato un senso assai diverso da quello fin'allora attribuitole: esso è divenuto un nuovo argomento per individuare la patria originaria degli Indoeuropei.

Dall'argomentazione dello Schmid emerge però anche un altro importante aspetto e cioè che la comparazione fra gli idronimi antico-europei, tratti dalla vasta area continentale, mostra per ogni idronimo una corrispondenza esatta (non solo nel lemma, ma anche nei suffissi) nella regione baltica (odierna o preistorica) e che proprio nella regione baltica è dato riscontrare la maggiore concentrazione (*Häufigkeitszentrum*) e continuità (*Kontinuitätszentrum*) nella tradizione dell'idronimia antico-europea (Schmid 1972) [vedi figura n. 1].

Ora, al di là delle impressionanti serie individuate dallo Schmid, se un tallone d'Achille esiste nella versione aggiornata della teoria sull'*Alteuropäisch*, esso risiede probabilmente nell'equazione *Alteuropäisch* = i.e. *sic et simpliciter*, che rischia di appiattire con un sol colpo tutta la complessità delle relazioni storiche intercorse sul suolo europeo nell'antichità, e nella conseguente esigenza di liberare il cosiddetto *Kerngebiet* dell'area antico-europea da ogni presenza anaria.

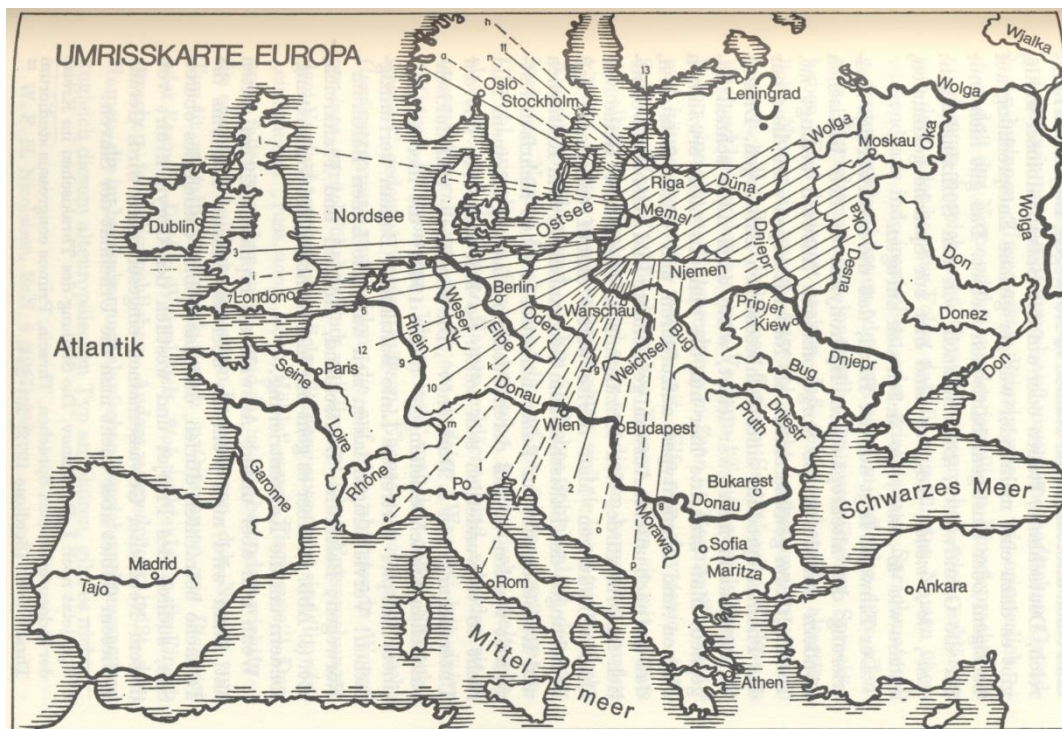


Figura n. 1. Corrispondenze idronimiche fra area baltica ed altre aree europee (Schmid 1972).

<i>Alteuropäisch</i>	<i>Baltico</i>	<i>Alteuropäisch</i>	<i>Baltico</i>
1. At(h)esis	Atesys	a. Ala	Ala
2. Drava	Drawe	b. Alia	Alys
3. Drawen	Dravine	c. Alsa	Alsa
4. Eisa	Aise	d. Varina	Variné
5. Isla	Jiesla	e. Vara	Varé
6. Laca	Laka	f. Arsia	Arsé
7. Limena	Limene	g. Mara	Mara
8. Margus	Marga	h. Neta	Nedé
9. Nāva	Nova	i. Nedd	Nieda
10. Filisa	Pelesa	k. Sala	Sala
11. Fala	Pala	l. Arga	Arga
12. Aisne	Apsuona	m. Aka	Aga
13. Aura	Aura	n. Sava	Sava
		o. Apsos	Apsa

Di grande importanza teorica è anche l'indicazione della centralità dell'area baltica per la comparazione linguistica che conduce Schmid a formulare una propria teoria dei rapporti d'epoca preistorica fra le lingue indoeuropee, rappresentata con un modello concentrico in cui il baltico – sulla base di considerazioni metodologiche, linguistiche, geografiche nonché in forza dei dati forniti dall'idronimia antico-europea – occuperebbe proprio il centro [vedi figura n. 2].

Con questa sua teoria – qui molto semplificata – e che trova invero maggiore favore nel settore onomastico che in quello della linguistica storico-comparativa, Schmid ha progressivamente introdotto quello che Antanas Klimas (1988) ha chiamato il suo cavallo di Troia nella cittadella fortificata dell'indoeuropeistica ufficiale fondata soprattutto sui dati delle tre lingue classiche: sanscrito, greco e latino. Infatti, questa concezione – se fosse accolta – sarebbe per la piuttosto conservativa scienza comparativa indoeuropea semplicemente rivoluzionaria.

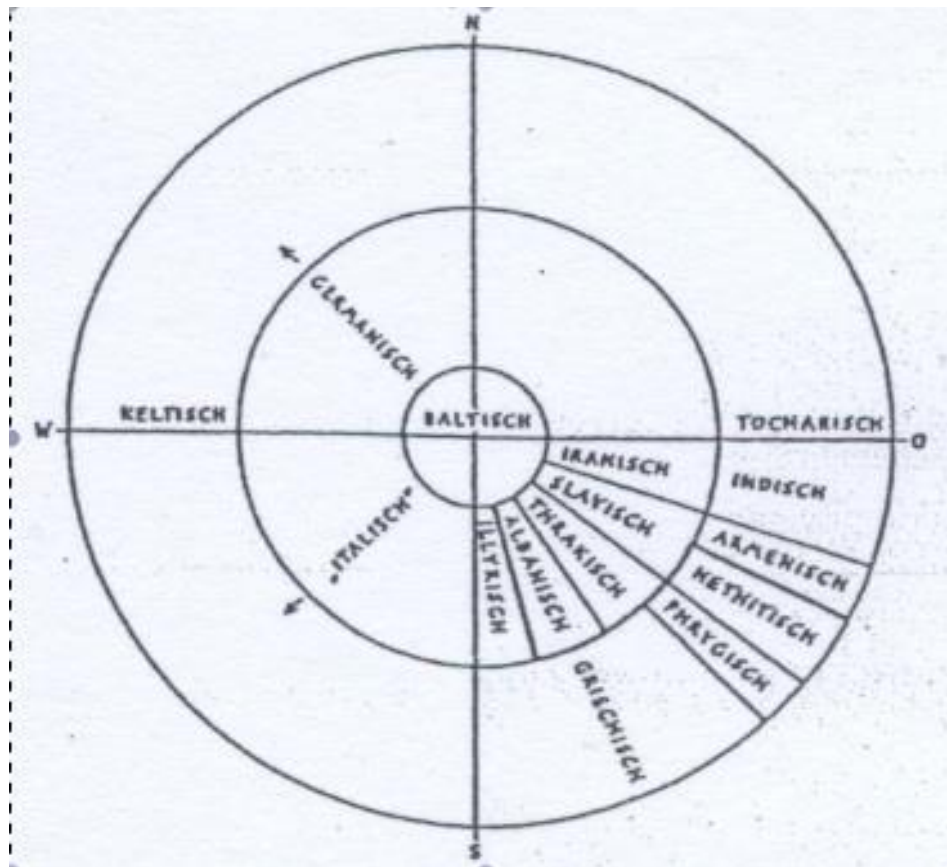


Figura n. 2. Lo schema concentrico dei rapporti linguistici fra le lingue i.e. secondo W. P. Schmid.

Per limitarci a pochi assunti, collocare il baltico al centro del sistema di relazioni fra le famiglie indoeuropee, implicherebbe non solo considerare il baltico una lingua *centum* satemizzata, ma anche ovviamente ricostruire un sistema fonologico (p. es. labiovelari e aspirate non sarebbero più necessarie) e un sistema verbale (molto semplificato) assai differenti da quelli oggi accettati... Riprendendo l'immagine del cavallo di Troia è stato giustamente osservato che i soldati sono già dentro, ma non è ancora chiaro quando metteranno in atto la loro conquista («it is not yet clear when the soldiers will make the conquest», Klimas 1988).

La discussione su queste concezioni ha trovato da tempo eco non flebile nell'opera di tanti studiosi. È stato messo bene in evidenza che, nell'indagine sulle complesse vicende dell'indo-europeizzazione dell'Europa (soprattutto occidentale) antica, non vanno sottovalutati i momenti di reciproca interazione fra le varie componenti che vi hanno partecipato. Accanto a quello genealogico, si è sottolineato l'aspetto diatopico, inclinando per una concezione dell'indoeuropeo d'Europa come il risultato di un lungo processo di fusione fra tradizioni encoriche e correnti indoeuropeizzatrici.

Dopo queste considerazioni il passo è breve per la prossima idea linguistica che conviene illustrare qui.

4. La Via dell'Ambra

Via dell'Ambra è il nome con cui si designa l'antico itinerario lungo il quale nell'antichità avvenivano il trasferimento e il commercio dell'ambra [vedi figura n. 3.].

Nell'antichità la Via dell'ambra garantiva ai Balti il contatto con l'Europa centrale e il mondo mediterraneo. Pare accertato che gli antenati degli attuali popoli baltici intrattenevano relazioni con altri popoli del mondo antico già nell'età del bronzo.

L'esportazione dell'ambra diventò un fenomeno importante come dimostrano i tanti reperti di collane, bracciali e monili trovati in tombe del periodo miceneo. Non soltanto i Fenici apprezzavano l'ambra del Baltico, ma anche i Greci e i Romani come hanno indicato gli scavi archeologici effettuati in Lettonia e il ritrovamento di molte monete greche e romane.

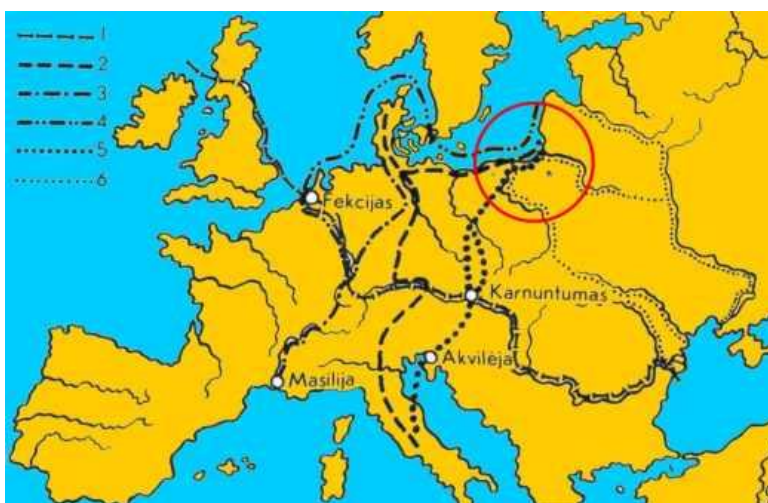


Figura n. 3. Ricostruzioni delle Vie dell'Ambra.

Fin dai tempi più antichi questa resina è entrata anche nell'arte. Omero narra che grani di *elektron* erano in una collana di Penelope (*Odissea*, XVIII, 295-296); secondo Sofocle sarebbero state di ambra le lacrime versate dalle sorelle per la morte di Meleàgro (ma la tragedia è perduta, se ne ha notizia da Plinio il Vecchio). Lo stesso vale anche per le lacrime delle Eliadi, le sorelle di Fetonte che, quando il loro fratello precipitò con il carro, accorsero sulle rive dell'Eridano.

Invero, parlare di un unico itinerario, di una sola Via dell'Ambra, è semplificare troppo le cose. Si trattò invero di un complesso sistema di vie commerciali attraverso le quali, dal litorale del Baltico orientale, l'ambra raggiungeva il Mediterraneo. Era un percorso di circa tremila chilometri, disposti su un asse longitudinale, che grosso modo collegava – attualizzando i termini – Venezia con San Pietroburgo (una vasta superficie che oggi attraversa il territorio di ben dieci stati; da sud verso nord: Slovenia, Austria, Ungheria, Repubblica Ceca, Polonia, Russia [Kaliningrad], Lituania, Lettonia, Estonia e di nuovo Russia).

Ora, è stato soprattutto Vittore Pisani che, per spiegare quei termini che testimoniano comunque di relazioni specifiche fra le due regioni (a prescindere da qualunque 'oasi mediterranea nella regione baltica'), tentò una lettura nella prospettiva delle *Kultur- und Wanderworte*, cioè di 'parole di cultura' e di 'parole viaggianti', che avrebbero transitato proprio lungo gli itinerari dell'ambra. Quest'ipotesi dice in buona sostanza che certe parole avrebbero potuto viaggiare e migrare proprio lungo quelle vie. Quali sono queste parole?

Per esempio il nome dell'oro. Si osservi la serie di corrispondenze, in baltico: prussiano antico *ausis*, lituano antico *ausas* (oggi *áuksas*, con inserzione seriore di *-k-*); dall'altra parte: latino *aurum* e anche tocario *A vās* «oro», sanscrito *vásu* «ricchezza, oro». Le forme baltiche riposano su un reconstructum **aus-os* che si lascia agevolmente confrontare con la forma italica (sabina) *ausom* e con il più recente latino *aurum* (< **aus-*).

Ecco che là, dove Alessio aveva visto affiorare la sua oasi, Pisani suppose invece un'importazione dalle coste mediterranee fino al Baltico e questa sua posizione è stata più o meno esplicitamente accettata (O. Schrader, V. Mažiulis et al.); Ivanov (1977) ritiene più antica la forma in *auks-* però comunque anch'essa migrata, insieme ad altre denominazioni dei metalli, dalle lingue dell'Asia minore.

5. Un caso studio di toponomastica: *Pisa*

A questo punto vorrei ‘virare’ decisamente verso un tema solo apparentemente lontano – come si vedrà meglio fra poco – da quanto esposto fin qui. Vorrei provare a gettare nuova luce su una *vexata quaestio* altrimenti arenatasi sul greto di un paio di ipotesi predominanti e inconciliabili. Parlerò di toponimi e di un nome di luogo in particolare.

5.1. Microcontesto. Molte volte lo studio di certi toponimi non riesce ad andare oltre al semplice accostamento fra alcuni elementi toponomastici d’indubbia somiglianza. È il caso anche dell’indagine sul toponimo *Pisa*, attestato nell’antichità classica e rintracciabile in greco (Πῖσα / Πίσσα / Πίσσα, città dell’Elide) e in latino (*Pisae -ārum*, città dell’Etruria). Forse le considerazioni generali svolte fin qui potranno aiutare a chiarire anche questo problema specifico.

Rispetto all’origine del toponimo, e in particolare a quella di *Pisae* “Etruriae urbs”, l’affollamento e la varietà delle derivazioni immaginate dalle lingue dei diversi popoli che nel corso della storia hanno abitato l’*ager pisanus*, sembrano essere il chiaro sintomo di una questione irrisolta. Fino a tutto il Novecento, comunque, le ipotesi più rappresentate sono due: quella etrusca e quella mediterranea. Anche il *Dizionario di toponomastica* [DT] si caratterizza, sotto la voce *Pisa*, per un’estrema prudenza:

«Toponimo di origine oscura, anche se non mancano ipotesi etimologiche; potrebbe significare ‘estuario’ o rientrare in una base idronimica prelatina che comparirebbe ad esempio nel gr. πῖσος ‘luogo irrigato’ ecc.».

La spiegazione etrusca (che è quella che si trova ancora nella Treccani) fu sostenuta, fra gli altri e più autorevolmente, da Vittore Pisani, in alcuni lavori pubblicati fra gli anni ‘20 e ‘30 del Novecento, ma non ha avuto seguito.

Invece, secondo Alessio, De Giovanni (1983, p. 73), tale base idronimica sarebbe mediterranea; si individuerrebbe una base idronimica mediterranea a partire da una connessione fra la base **fis-* ‘pianta di palude’ (la stessa base di lat. *fistula*, *fistūca*, *fiscus*, *fiscina*, ecc.) intesa come «forma etrusca di un anteriore **pis-*», le parole greche πῖσος (pl. πίσσα) ‘luogo irrigato, prato’, πισεύς ‘abitante in luogo palustre’ e, infine, i toponimi Πῖσα (città e fonte nell’Elide) e *Pisae* ‘Etruriae urbs’. Queste connessioni sarebbero ragione sufficiente – ora secondo Alessio (1954, p. 491) – affinché «*ferula* possa essere interpretato come ‘la pianta del πῖσος’ allo stesso modo che *νάρθηξ* sarebbe ‘la pianta del **nart-*’; nondi-

meno i toponimi citati riceverebbero in questo contesto adeguata spiegazione etimologica. Così incasellati all'interno della Teoria (indo-)mediterranea i dati vengono proiettati nella preistoria e *ipso facto* sottratti ad ogni ipotesi storica...

A me non interessa oggi proporre un'ipotesi storica per spiegare l'origine del nome Pisa 'Etruriae urbs'. Tuttavia non intendo sottrarmi a questo compito, per cui, sinteticamente, dirò ciò che penso, aggiornando i dati storici e archeologici. Conviene ricordare che per Pisa è accertata l'esistenza di un insediamento di Focesi, i quali fondarono uno scalo per i loro commerci nel luogo dove poi sorgerà Pisa, alla confluenza dell'Arno e dell'Auser (l'attuale Serchio). Su questo dato concordano molti studiosi, soprattutto storici ed eruditi, ma anche per esempio Pugliese Carratelli (1958, p. 211) nel contesto di probabili relazioni micenee con l'Italia antica.

E ancor più interessante è il fatto che la presenza di genti *graece loquentes* prima del dominio etrusco nel luogo dove sorgerà Pisa sia stata confermata da reperti archeologici che, come ha scritto la Pancrazzi (1982, p. 332): «fa[nno] guardare alla posizione commerciale di Pisa nel VI e V secolo con un'ottica che deve tener conto della definizione 'Pisae, Phocida oppidum' di Servio».

Anche il Gras (1985, p. 19) ha ribadito l'esistenza di traffici commerciali antichi fra la Grecia e l'area tirrenica, spingendosi fino ad affermare che: «renaît l'espoir de connaître un jour l'*emporion* phocéén (?) de Pise».

Tale aggiornamento nei dati storici e archeologici non dovrebbe restare senza effetti per la determinazione dell'origine del nome della città. E allora perché non congetturare che proprio i Focesi o comunque quelle genti *graece loquentes*, a più riprese menzionate dall'antichità ai giorni nostri, una volta individuato in questi prati ricchi di acque un luogo confacente ai loro scopi, l'abbiano semplicemente denominato nella loro lingua..?

Se dunque nell'antichità Pisa fu – com'è ritenuto molto probabile da più parti – uno scalo commerciale frequentato da mercanti *graece loquentes* – forse un importante luogo di «rottura del carico» come ha ipotizzato Morel (1982) –, allora sarà opportuno considerare, come punto di partenza per una spiegazione linguistica, la voce greca πῖσα (nom. pl.!) 'prati umidi, terreni palustri', e ciò per almeno tre buoni motivi:

- (a) la toponomastica focese si riferisce spesso alle condizioni naturali e all'ubicazione dei luoghi (Antipoli, Olbia, Citarista, Rodanusia, Teline, Tauroento);
- (b) questo termine, in forza della sua genericità, poteva ben servire per designare l'intero delta pisano;
- (c) il termine è attestato soltanto al plurale, proprio così come il nome *Pīsae* che, come tale, sarà verosimilmente sorto più tardi, quando il luogo era ormai divenuto una strategica piazzaforte romana, previo suo adattamento al sistema del latino e sua rideterminazione nel numero plurale secondo la flessione latina.

5.2. Macrocontesto. A questo punto è il caso di chiedersi, se non si possa fornire una diversa spiegazione dei fatti appena esposti. E se non convenga a tal fine allargare programmaticamente l'ambito della comparazione ad altre famiglie linguistiche del ceppo indoeuropeo e tenere a mente le acquisizioni più recenti della ricerca idronimica.

Ciò equivarrà ad operare con dati offerti dalla tradizione classica e dalle lingue vive di differenti domini filologici, senza comunque perdere di vista il fatto di trattare più spesso con nomi che, in quanto tali, partecipano delle specifiche caratteristiche proprie di questa categoria, fra le quali soprattutto la loro trasferibilità (*Übertragbarkeit*), per esempio da luoghi ad acque o viceversa.

La dislocazione geografica dei dati toponomastici omoradicali rinvenuti in vari domini filologici (greco, latino, trace, baltico, nordico e altri) può anche in questo caso suggerire eventuali rapporti preistorici sottesi alle connessioni linguistiche.

Si noterà che la semplice giustapposizione sulla carta geografica dei toponimi individuati, così dislocati longitudinalmente secondo la direttrice 'nord / sud' seguono gli itinerari della Via dell'Ambrà; per limitarsi ai principali, propongo lo schema seguente:

NORD : **SCANDINAVIA**

Fed, Fedt, Agni-fit < *pīd-

LETTONIA

pīsa zeme ‘sumpfiger Boden’ et al.

LITUANIA (Kaliningrad)

Pisà et al.

PRUSSIA

Pisa (nome di fiume) [vedi figura n. 4]

Pysekaim, Piselauk (nomi di villaggi)

POLONIA/UCRAINA

Pisa (affluente del Narew)

SUD :

TRACIA

Πιζευς

MACEDONIA

[– ? Πισσαῖον]

ETRURIA

Pisae

LUCANIA

[– ? *Pissandas*

ELIDE

Πίσα

Il toponimo in questione risulta dunque tutt’altro che isolato, sia dal punto di vista del contesto situazionale, sia dal punto di vista delle sue pertinenze formali e derivative, alla luce delle quali sembrano venir definitivamente meno ipotesi che esulino dall’ambito linguistico indoeuropeo.

Una volta così aggiornati i termini specifici della questione relativa al toponimo *Pisa*, appare chiaro quali insospettati vantaggi offra, ai fini di una migliore spiegazione etimologica, l’aver inserito i dati delle lingue classiche in un più ampio quadro di relazioni toponomastiche indoeuropee. Le considerazioni fin qui svolte analiticamente permettono così di sintetizzare le nostre conoscenze sul toponimo in esame in alcuni punti fermi:

(a) esso si rintraccia con certezza in una vasta area geografica europea dai Balcani, all'Etruria, al Baltico e alla Scandinavia; meno certa è la sua attestazione in altre aree (Lucania, Macedonia, Asia Minore).

(b) la forma che si ricostruisce è **pī-d-s-* (che si riallaccia alla radice i.e. **poi-/*pi-*, con un ampliamento in *-d-*) la cui semantica originaria sarà stata 'pianura umida, terreno palustre' (*IEW* I, p. 794).

(c) la stretta relazione del toponimo studiato con un originario appellativo idronimico trova conferma etimologica nel radicale **pī-d-* individuabile in base alla serie di corrispondenze, p. es.: gr. πίδαξ 'sorgente', πίσσα (< **pid-s-*) 'locus irriguus', trace *piza(s)* (< **pīd-sā*) 'Morast [palude], Wiese [prato]', osco πιζη (< **pīd-jei*) 'alla sorgente';

lituano *pýsti* (< **pīd-ti*) 'feucht und weich werden (vom Boden) [diventare umido e molle del suolo]', lituano *pisà* 'cunus'; lettone *pīsa, pīsa, pīss* (< **pīd-sā*) 'sumpfiger Morast [palude acquitrinosa]', antico nordico *fit* (< **pīd-*) 'feuchte Wiese [prato umido]'.

6. In luogo di una conclusione

Si osserva in conclusione che, da una parte, questi dati si concentrano nella fascia longitudinale tracciata dagli itinerari da tempo stabiliti dagli archeologi per la cosiddetta Via dell'ambra; dall'altra, si lasciano però anche collocare all'interno della teoria antico-europea (soprattutto nei termini su esposti del suo 'riformatore' Wolfgang P. Schmid (p. es. 1966, 1972), piuttosto che nella cornice della teoria (indo-)mediterranea. Ciò suggerisce soprattutto il notevole tasso di concentrazione di idronimi con base **pī-d-s-* che si riscontra nell'area baltica (Schmid 1983) e l'irradiazione degli idronimi in altre aree europee.

V'è pertanto motivo di ritenere che il nome in questione rifletta – pur nella varietà degli specifici contesti – una primitiva e generalizzata istanza di designazione di ascendenza indoeuropea che nomina luoghi a partire dalle caratteristiche fisiche del suolo. Infatti con il toponimo Pisa vengono designati tanto acque ferme o fluenti (idronimi), quanto determinati territori (geonimi) paludosi e acquitrinosi e/o insediamenti umani (econimi) la cui caratteristica fisica principale era l'abbondanza di acque e sorgenti.

È ovvio che soltanto ulteriori ricerche mirate in proposito potranno smentire o suffragare, più e meglio di quanto si sia saputo fare qui, la validità di questa ipotesi sia sul versante formale che su quello semasiologico.



Figura n. 4. Indicazione del fiume *Pissa* nella Kaliningradskaja Oblast' (Foto © D. Ardoino, A. Cerri, ottobre 2012).

Abbreviazioni:

DT = Queirazza C. G., Marcato C., Pellegrini G. B., Petracco Sicardi G., Rossebastiano A. (a cura di) 1990: *Dizionario di toponomastica. Storia e significato nei nomi geografici italiani*, Torino, UTET.

IEW = Pokorný Julius 1959: *Indogermanisches etymologisches Wörterbuch*, 2 vols., Bern, Francke.

LEW = Fraenkel Ernst 1962–1965: *Litauisches etymologisches Wörterbuch*, 2 vols., I (A-privekiúoti, 1962); II (privyeti-žvolgai, a cura E. Hoffman e E. Tangl, con la collaborazione di A. Słupski, 1965), Göttingen, Vandenhoeck & Ruprecht; Heidelberg, Winter.

LSC = Becker J., Eggers E., Udolph J., Weber D. (a cura di) 1994: *Linguisticæ Scientiæ Collectanea. Ausgewählte Schriften von Wolfgang P. Schmid anlässlich seines 65. Geburtstages*, Berlin, New York, de Gruyter, p. 482.

LVV = Karulis Kostantīns 1992: *Latviešu etimoloģijas vārdnīca*, 2 vols., I (A-O), II (P-Ž), Rīga, Avots; ²2001, 1 vol., Rīga, Avots.

SEJ = Smoczyński Wojciech 2007: *Słownik etymologiczny języka litewskiego*, 2 vols., I (A-Ž), II (Index), Wilno, Uniwersytet Wileński Wydział filologiczny.

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Un viaggio per la *mimesis*: Platone, il passato e il racconto su Atlantide

Il rapporto fra terre lontane, Africa, Europa e Asia, non è certo un tratto peculiare di questo secolo: ha radici profonde in Europa e trova con la tradizione greca espressioni di rilievo indiscutibile per la produzione letteraria. L'esercito di Agamennone sotto le mura di Troia o l'estremo peregrinare di Odisseo fra sponde per lo più ostili e misteriose, l'inarrestabile fascino dell'Oriente che soffia sulla lirica o l'acuta curiosità di Erodoto che osserva l'altro, in Persia, in Egitto e in Scizia: è possibile dire che per la tradizione greca il rapporto fra terre lontane garantisce un contenuto, forse il più grande, al flusso della produzione letteraria, ne offre sfumature policrome, rende fertile, plastica la tensione che pervade le singole scene. Tema di questo intervento è la riflessione sulla *mimesis* per la città ideale che Platone suggerisce con il racconto su Atlantide nel *Timeo* e nel *Crizia*. Per la *mimesis* della città ideale ha un ruolo molto concreto un viaggio in Egitto, sede nobile per la memoria di un passato che giunge al tempo di Atlantide, il regno al di là delle colonne di Eracle, un regno che la forza di Atene doma ¹.

La tradizione greca, un viaggio in Egitto, il tempo di Atlantide, il rapporto fra terre lontane. Ben presto Platone richiama, nel *Timeo*, la ragione per il racconto su Atlantide (19 b-20 c): appagare il desiderio che prova Socrate, contemplare un'immagine dinamica della *paideia* e della *trophe* che ha delineato il giorno prima, riscattare il risultato della ricerca sulla città nuova dall'immobile condizione di un testo per seguirne il concreto impegno militare.

“Guardate ora che tipo di sensazione ho avvertito per la città da noi descritta. Simile, credo, è la sensazione che prova chi, vedendo in un luogo animali belli, raffigurati nella pittura o anche vivi, ma in riposo, desiderasse ammirarli muoversi e sostenere una di quelle lotte che sembrano convenire ai loro corpi: così ho avvertito anch'io questa sensazione per la città da noi descritta. Perché volentieri seguirei qualcuno che narrasse come la città conduca le lotte che combattono le città con le altre città, entrando in guerra con giusto profilo e in guerra mostrandosi degna dell'istruzione, della formazione ricevuta nel rapporto con le altre città, sia per la prassi, con le azioni, sia per l'analisi, con le parole.”

¹ Cf. M. Tulli, *The Atlantis Poem in the Timaeus-Critias*, in G. Boys-Stones, D. El Murr, C. Gill (ed.), *The Platonic Art of Philosophy*, Cambridge 2013, 269-282.

La sensazione per la città descritta. Ma descritta quando? Ieri, *chthes*, è il termine che Platone offre (17 a-b). Un risultato che Socrate vuole in funzione, *preponos*, della *paideia* e della *trophe* che ha delineato il giorno prima. Forse il giorno della *Repubblica*, il giorno della ricerca sulla città ideale con Trasimaco, con Adimanto e con Glaucone? Certo qui Platone richiama un giorno con Timeo e con Crizia (17 a-19 b). Ma, della *paideia* e della *trophe* che Socrate ha delineato il giorno prima, indica un veloce schema che non è possibile distinguere dalla *Repubblica*, dalla ricerca sulla città ideale². Più che il passato di Atene, il racconto su Atlantide offre un'immagine dinamica della città ideale, ha nel *Timeo* e nel *Crizia* la prospettiva che la critica per lo più rivendica nel *Menesseno* al racconto su Atene. Dopo la creazione della città ideale, Platone la inserisce nel flusso ambiguo dei *genomena*³. Il problema non è la ricostruzione di un passato, ma percepire il rapporto fra la città ideale, un paradigma, e il passato di Atene, il passato della città reale. Platone qui anima un ordine di *zoa kala*, ma *hesychian agonta*, e suggerisce un'immagine dinamica di *zoa kata ten agonian athlounta*. La riflessione sulla forma letteraria che ha nel *Timeo* e nel *Crizia* il racconto su Atlantide giunge inevitabile, perché il racconto su Atlantide nasce dalla città ideale. Comune il canone della *mimesis*, che dirige la riflessione sulla forma letteraria e indica il rapporto fra la città ideale, un paradigma, e il passato di Atene: il testo impedisce la demarcazione⁴.

Certo, un compito difficile. Platone, per dire il passato di Atene, il passato della città reale che ha condannato Socrate, conciliabile con la città ideale della *Repubblica*, suggerisce un viaggio in Egitto, per un viaggio nell'oceano, al tempo di Atlantide, al di là delle colonne di Eracle. Certo la critica, per lo più su pagine di Erodoto (I 28, 1-33, 1), colloca Solone fra il 594 e il 584 in Egitto, presso Amasi, un periodo per apprendere. Ma per apprendere in quale ambito? Platone per il racconto su Atlantide, nel *Timeo* e nel *Crizia*, richiama la tradizione lunghissima che Solone scopre nella città di Sais, presso il Nilo, presso il Delta⁵. Quale garanzia per la tradizione lunghissima, Crizia indica nel *Timeo* un *corpus* di *grammata* custodito nelle dimore di Neith per oltre nove millenni (23 d-24 e). E' possibile calcolare oltre nove millenni perché il racconto su Atlantide ha per tema vicende che il *corpus* di *grammata* scandisce *akribes*,

² Cf. D. Clay, *Platonic Questions*, Pennsylvania University Park 2000, 168-172. Forse la cornice della *Repubblica* offre la soluzione plausibile. Quale destinatario postulare per il *kateben*? Perché non scorgere nella ricerca sulla città ideale con Trasimaco, con Adimanto e con Glaucone il contenuto di un racconto per il giorno con Timeo e con Crizia? Cf. M. Vegetti, *Società dialogica e strategia argomentativa nella Repubblica (e contro la Repubblica)*, in G. Casertano (ed.), *La struttura del dialogo platonico*, Napoli 2000, 74-85.

³ Cf. M. Tulli, *Ethics and History in Plato's Menexenus*, in M. Migliori, L. M. Napolitano Valditara (ed.), *Plato Ethicus: Philosophy is Life*, Sankt Augustin 2004, 301-314.

⁴ Cf. P. Hadot, *Physique et poésie dans le Timée de Platon*, "Revue de Théologie et de Philosophie" 115 (1983), 113-133, ora in *Études de philosophie ancienne*, Paris 1998, 277-305. La *mimesis* nel *Timeo*, per M. Regali, *Il poeta e il demiurgo*, Sankt Augustin 2012, 99-147, è sia il canone per il demiurgo, per l'origine del mondo, sia il canone per la forma letteraria, per il dialogo.

⁵ Cf. L. Brisson, *Platon: les mots et les mythes*, 1994², 32-49.

con attenzione minuziosa, puntuale ⁶. Un sacerdote molto vecchio, *mala palaios*, nel *Timeo* le richiama (25 b-d). Ben preciso lo scopo, mostrare minima, per il passato di Atene, la memoria che ha Solone: il passato di Atene rende possibile invece capire l'origine per la *diakosmesis* in Egitto, la grande organizzazione sociale.

“Fu allora, o Solone, che la vostra potente città fece rifulgere il suo vigore da eroi agli occhi di tutti: su ogni città prevalendo per forza d'animo e arte militare, prima guidando l'esercito della terra greca, costretta poi a combattere da sola per la defezione degli altri, più volte sull'orlo del pericolo estremo, vinto l'invasore, innalzò il trofeo, impedì che fossero asserviti coloro che mai erano stati asserviti e, generosamente, gli altri popoli, quanti abitiamo al di qua delle colonne di Eracle, tutti liberò. Spaventosi terremoti e cataclismi avvennero poi. E in una sola giornata, in una sola notte, terribili, la vostra stirpe guerriera sprofondò sotto il suolo e l'isola stessa di Atlantide scomparve, inabissata nel mare. Per questo, anche oggi, quell'Oceano è difficile per ogni navigazione, inesplorabile, per il pericolo dei bassi fondali che l'isola di Atlantide ha generato crollando”.

Eroi di Atene, *arete te kai rhome*, con il trionfo su Atlantide, *tropaion estesen*. La costellazione di parole favorisce il rapporto fra la città ideale, un paradigma, e il passato di Atene, il passato della città reale. Un sacerdote molto vecchio, *mala palaios*, indica la prospettiva che suggerisce Platone, richiama il passato conciliabile con la città ideale. Per lo più la critica vede qui l'intellettuale orientato nella *Repubblica* sulla filosofia, l'intellettuale al centro dell'utopia. Il sacerdote molto vecchio, *mala palaios*, è l'intellettuale che Platone per lo schema iniziale del *Timeo* dimentica: nella città di Sais, presso il Nilo, presso il Delta, un sapere ineludibile per la ricerca nella *Repubblica*, per la ricerca sulla città ideale ⁷.

Solone porge ascolto e intuisce la forza che ha il racconto su Atlantide. Da qui, dopo il ritorno in città, sia la ripetizione orale, sia un concreto impegno per la produzione poetica.

La ripetizione orale. Solone, *oikeios kai sphodra philos* di Dropide, riferisce nel *Timeo* il racconto su Atlantide al figlio di Dropide, Crizia il vecchio (20 d-21 d). Il rapporto che ha Crizia con il figlio di Dropide, Crizia il vecchio, è difficile da capire: per il racconto su Atlantide, nel terzo giorno delle Apaturie, dopo la fase abituale della rapsodia, Crizia, che ha dieci anni, porge ascolto al figlio di Dropide, Crizia il vecchio, che ne

⁶ Cf. C. Gill, *Plato: The Atlantis Story*, Bristol 1980, VIII-XII. Il corpus di *grammata* è su Creta minoica per J. V. Luce, *The End of Atlantis*, London 1969, 13-44: Platone offre nel *Timeo* e nel *Crizia* un'immagine fedele di Creta minoica. Per M. West, *Iambi et elegi Graeci ante Alexandrum cantati*, II, Oxford 1992², 164-165, il racconto su Atlantide nel *Timeo* e nel *Crizia* deriva da Eudosso di Cnido che scopre in Egitto la memoria dell'eruzione di Thera. E' indispensabile pensare invece al cataclisma di Elice, nel Peloponneso, per A. Giovannini, *Peut-on démythifier l'Atlantide?*, "Museum Helveticum" 42 (1985), 151-156: Platone offre nel *Timeo* e nel *Crizia* un'immagine fedele di Sparta. Ma il racconto su Atlantide indica un risultato della ricerca sulla città ideale. Palese il rapporto con l'Accademia. Cf. H. G. Nesselrath, *Platon und die Erfindung von Atlantis*, Leipzig-München 2002, 17-24.

⁷ Cf. M. Vegetti, *L'autocritica di Platone: il Timeo e le Leggi*, in M. Vegetti, M. Abbate, *La Repubblica di Platone nella tradizione antica*, Napoli 1999, 13-27.

ha ottanta più di lui ⁸. Platone ben presto nel *Crizia* conferma la nobile tradizione (108 c-d). Qui offre numerosi dettagli e la cura indica l'esigenza, palese già nel *Timeo*, di cogliere per il racconto su Atlantide un episodio reale, nel segno dell'*aletheia* (26 e-27 a): certo la prova per l'*aletheia* è il *corpus* di *grammata* in Egitto, il testo custodito nella città di Sais ⁹.

Un concreto impegno per la produzione poetica. Crizia il vecchio richiama nel *Timeo* la *stasis* di Atene che, fra calamità di ogni tipo, colpisce Solone (21 a-d). Da qui l'interruzione di un racconto su Atlantide, *logos hon deuro enenkato*, un racconto con la forma dell'*epos*, capace di gareggiare con la produzione poetica di Omero e di Esiodo ¹⁰. Per la forma dell'*epos*, il repertorio dei nomi. Crizia, dopo la raffigurazione dell'Attica e di Atene, lo richiama nel *Crizia* per la raffigurazione che annuncia di Atlantide, per zone o leggi di Atlantide (112 e-113 b). Il repertorio dei nomi è il risultato di un grande impegno ¹¹. Dalla lingua di Atlantide giunge nella lingua in vigore in Egitto, fissato con il *corpus* di *grammata*. Ma, in base al canone della *dianoia* Solone, dalla lingua in vigore in Egitto, lo rende nella lingua greca ¹². La memoria favorisce in Egitto, regione per il Nilo senza incendi e senza diluvi, la ricostruzione di un passato conciliabile con la città ideale della *Repubblica*.

Solone, l'interruzione di un racconto su Atlantide: un fantasma, che la critica esclude ¹³. Platone qui è privo di un pur debole sostegno esterno, isolato. Ad un tempo nel *Timeo* e nel *Crizia* emerge più di un elemento che non rende possibile credere nella produzione poetica su Atlantide ¹⁴. Ma perché Platone la richiama nel *Timeo* e nel *Crizia*? La soluzione certo non è difficile. Crizia, non tormentato per la *stasis* di Atene, dopo la creazione della città ideale, ha nel *Timeo* lo scopo che ha Solone. Ma Crizia nasconde Platone, che nel *Timeo* e nel *Crizia*, con la memoria che favorisce in Egitto la tradizione lunghissima, con la

⁸ Solone, *oikeios kai sphodra philos* di Dropide: per un frammento di encomio (22 a West) giunge il profilo concreto di Dropide quale destinatario. Cf. U. Bultrighini, *Maledetta democrazia: studi su Crizia*, Alessandria 1999, 273-297.

⁹ Cf. G. Arrighetti, *Poesia, poetiche e storia nella riflessione dei Greci*, Pisa 2006, 183-206.

¹⁰ Certo è da escludere un attrito fra la produzione poetica e il termine *logos*. Nel terzo giorno delle Apaturie, il figlio di Dropide, Crizia il vecchio, richiama Solone perché autore della produzione poetica di più grande successo. Cf. R. Renehan, *Studies in Greek Texts*, Göttingen 1976, 88-92.

¹¹ Cf. H. G. Nesselrath, *Kritias*, Göttingen 2006, 243-248.

¹² Crizia il vecchio nel *Timeo* richiama Solone per il valore puntuale di Neith (21 e-22 b). In base al testo di Erodoto (IV 8, 1-3), D. Gambarara, *Alle fonti della filosofia del linguaggio*, Roma 1984, 73-75, 98-99, osserva Eumelo, coniato nel *Crizia* su Gadiro (113 e-114 d). Platone suggerisce nel *Fedro* un risultato della lingua greca per Tebe, la città di Thamus, forse Ammone (274 c-275 b). Cf. E. Heitsch, *Platon. Phaidros*, Göttingen 1993, 188-203. Non è difficile scorgere qui un gusto che Tuciddide (I 3, 1-5) prova e indica per Temistocle (I 138, 1-2), pronto al contatto con la lingua dei barbari, *hosa edynato*. Cf. L. Canfora, *Una società premoderna*, Bari 1989, 209-220.

¹³ Cf. B. Gentili, C. Prato, *Poetarum elegiacorum testimonia et fragmenta*, I, Leipzig 1988², 61-126.

¹⁴ Cf. M. Tulli, *Il Crizia e la famiglia di Platone*, "Studi Classici e Orientali" 44 (1994), 95-107. Dichiarato, sia per Strabone (II 3, 6) sia per il *Solone* di Plutarco (26, 1-4 e 31, 3-32, 2), il rapporto con la fonte: Platone. Cf. A. Martina, *Solon*, Roma 1968, 22-31.

memoria che nel *Crizia* giunge per l'invocazione arcaica (108 c-d), offre un racconto su Atlantide capace di gareggiare con la produzione poetica di Omero e di Esiodo ¹⁵.

Certo il desiderio che prova Socrate, contemplare un'immagine dinamica della *paideia* e della *trophe* che ha delineato il giorno prima, è in rapporto con il ritorno fra le ombre della caverna dopo la contemplazione della luce, con il ritorno, per la *Repubblica*, doloroso e inevitabile (514 a-518 b). Ma, per la produzione letteraria, un contributo giunge da pagine che non molto tempo dopo ha elaborato un grande allievo dell'Accademia, il più grande, Aristotele ¹⁶. Nella *Poetica*, la scelta fra il discorso che indugia sui *genomena* e il discorso che ne offre un'immagine fedele di per sé rende inevitabile distinguere il particolare, il *kath'hekaston*, e il generale, il *katholou* (1451 a 36-b 23). La ricostruzione di un passato suggerisce il *kath'hekaston*. Il *katholou* è il canone per la filosofia e per la produzione poetica ¹⁷. Ma nella produzione poetica il *kath'hekaston* emerge con il repertorio dei nomi, da gestire per il rapporto con il *katholou*.

“Da quanto si è detto risulta evidente ad un tempo che l'opera del poeta non consiste nel mostrare gli eventi reali, ma eventi che avverrebbero, possibili nel segno del plausibile o del necessario. Lo storico e il poeta non si distinguono perché si esprimono in versi o in prosa: gli scritti di Erodoto, con la forma di versi, resterebbero pur sempre scritti di uno storico, con il metro e senza il metro. Ma ecco la differenza: lo storico espone gli eventi reali e il poeta gli eventi possibili. Perciò l'attività del poeta è un'attività teoretica, un'attività più elevata dell'attività dello storico, perché la prima espone piuttosto una visione del generale, la seconda del particolare. Generale vuol dire che tipo di persone deve sostenere o fare che tipo di cose nel segno del plausibile o del necessario. E' questo lo scopo del poeta, che aggiunge i nomi. Al contrario il particolare vuol dire quali cose Alcibiade ha compiuto e sofferto.”

Un paradigma per la ricostruzione di un passato è il racconto di Tucidide, il racconto delle cose che Alcibiade ha compiuto e sofferto. Aristotele indica il particolare, utile per la ricostruzione di un passato, e il generale, con la filosofia e con la produzione poetica. La distanza che divide la filosofia dalla produzione poetica è minima ¹⁸. Con il *katholou* e con il *kath'hekaston* Aristotele ribadisce la prospettiva che Platone offre nel *Timeo*. Il desiderio che prova Socrate non è che il desiderio di mettere in contatto la filosofia con la ricostruzione di un passato, la creazione della città ideale con il racconto sulla città reale. Un desi-

¹⁵ Cf. C. Gill, *The Genre of the Atlantis Story*, "Classical Philology" 72 (1977), 287-304.

¹⁶ La critica riconosce sempre più Aristotele un grande allievo dell'Accademia. Richiama certo Platone l'indagine che Aristotele suggerisce per la produzione letteraria e per la retorica. Cf. S. Halliwell, *The Aesthetics of Mimesis*, Princeton-Oxford 2002, 151-259, trad. it. Palermo 2009, 137-225.

¹⁷ Cf. A. Schmitt, *Aristoteles, Poetik*, Berlin 2008, 372-426.

¹⁸ Il dibattito su *epithemene*, per il repertorio dei nomi, è fertile. H. J. Horn, *Zum neunten Kapitel der aristotelischen Poetik*, "Rheinisches Museum" II 131 (1988), 113-136, esclude la funzione concessiva.

derio molto ambizioso ¹⁹. La soluzione giunge con la tradizione lunghissima che Solone scopre nella città di Sais, presso il Nilo, presso il Delta. Ne deriva un racconto che ha il codice della produzione poetica, il codice che vuole Solone, il codice che rende il *katholou*, ma con il repertorio dei nomi non dimentica il *kath'hekaston*. Percepire il *katholou* con il *kath'hekaston*, scorgere il passato con il paradigma dell'*arete* maturato nella *Repubblica*, vivere il passato di Atene con la filosofia, con la ricerca sulla città ideale che Socrate offre con Timeo e con Crizia: questo è lo scopo che ha il racconto su Atlantide, un racconto che avvolge la filosofia con il passato, con il repertorio dei nomi. Platone risponde con il *katholou* nel segno dell'*arete* al *kath'hekaston* di Tucide ²⁰. Il racconto su Atlantide nel *Timeo* e nel *Crizia*, se indica il passato di Atene per un'immagine dinamica della città ideale, offre il *katholou* che Aristotele riconosce per la produzione poetica.

Platone, sia con le opere della prima fase, nell'*Ippia*, nel *Protagora*, nello *Ione*, sia con le opere dell'ultima fase, nel *Filebo*, nel *Politico*, nelle *Leggi*, ha un rapporto con la produzione poetica, un rapporto che traspare con la prospettiva più mutevole, fra un concreto impegno di ermeneutica e la difficile competizione, fra le accuse per la *paideia* e la plastica emulazione per il mito. Ne deriva un'oscillazione, forse non auspicabile per l'armonia delle opere, ma certo fertile, perché base per il dialogo, per la forma nuova della produzione letteraria che Platone suggerisce ²¹.

Crizia indica nel *Timeo* il rapporto fra la produzione poetica e il racconto su Atlantide con la fonte che ha per la tradizione greca, Solone. La *stasis* di Atene costringe Solone al grande agone per la protezione di un ordine varato prima della partenza per il viaggio in Egitto. Ma Crizia non dimentica il racconto su Atlantide: al termine della ricerca sulla città ideale, ne conferma il codice. Solone qui è un segno della produzione poetica, più che un cardine per il passato di Atene ²².

Il rapporto fra la produzione poetica e il racconto su Atlantide. Per convinzione arcaica, puntuale nell'*Inno ad Apollo* per le fanciulle di Delo (156-164) e nella *XII Pitica* di Pindaro per il *nomos* policefalo (18-27), per convinzione classica, celebre con Damone per la musica e per l'*ethos* (16 e 19 Lasserre) o con le *Tesmofoiazuse* di Aristofane per la lirica e per la tragedia (146-170), è difficile non scorgere un campo

¹⁹ Cf. M. F. Burnyeat, *Eikos Mythos*, "Rhizai" 2 (2005), 143-165.

²⁰ Un risultato che stupisce, perché la tradizione manualistica vede Platone per lo più non conciliabile con le pagine di Tucide: celebre il rifiuto di U. v. Wilamowitz, *Platon*, II, Dublin-Zürich 1969⁴, 126-127. Ma Platone richiama il passato con spessore indiscutibile. Palese il metodo di Tucide nelle *Leggi*. Cf. R. Weil, *L'Archéologie de Platon*, Paris 1959, 42-54.

²¹ Cf. M. Erler, *Platon*, Basel 2007, 60-98.

²² Proprio il rapporto con la produzione poetica favorisce il contenuto, forse il più alto. Cf. K. Gaiser, *Platone come scrittore filosofico*, Napoli 1984, 103-123, ed. ted. in *Gesammelte Schriften*, Sankt Augustin 2004, 43-55.

della *mimesis* nella produzione poetica ²³. Platone offre nel *Crizia* la riflessione sulla *mimesis*, dopo il discorso di Timeo per il demiurgo e per l'origine del mondo (106 b-108 a).

“Di necessità, ogni discorso che sviluppiamo è imitazione o somiglianza. Se in pittura consideriamo la rappresentazione di un corpo divino e di un corpo mortale secondo la capacità più o meno grande di appagare il gusto di chi osserva, non è possibile non constatare che la terra, le montagne, i fiumi, le selve, tutto il cielo e le cose che sono e si muovono con il cielo ci piacciono non appena qualcuno le sappia rispecchiare secondo la loro somiglianza, perché, non conoscendo nulla di preciso intorno a queste cose, non esaminiamo e non scrutiamo la pittura e ci basta un adombramento labile o fallace. Ma se un autore ha per scopo la rappresentazione del nostro corpo, diventiamo giudici aspri quando non offre per intero la singola somiglianza, perché acutamente cogliamo, per l'attenzione continua e familiare, quanto è stato trascurato.”

Il racconto su Atlantide non è che il tentativo di mettere in contatto la filosofia con la ricostruzione di un passato. Un tentativo che richiama Solone, il codice della produzione poetica, e, prima dell'*incipit*, giunge la riflessione sulla *mimesis*, controllabile per il corpo mortale, agevole per le cose del mondo, pur sempre ineludibile per la produzione poetica ²⁴. Ma con il III e con il X libro della *Repubblica*, Platone giunge al rifiuto della *mimesis*. L'autore con la *mimesis* non è più rintracciabile, suggerisce maschere pericolose per la *paideia*, è da bandire dalla città ideale, perché apre le singole scene al *kakon* (392 c-398 b). Indica un panorama fra le ombre, non ha il sapere ²⁵. Per doppia distanza dall'*aletheia*, nutre di *pathos* l'anima irascibile, richiama *phantasmata* dalla forma ingannevole (595 a-608 b).

Un attrito insanabile? Forse, dopo il risultato della ricerca sulla città ideale nella *Repubblica*, il racconto su Atlantide nel *Timeo* e nel *Crizia* rende la riflessione sulla *mimesis* più dolce? La critica osserva che Platone già con il V e con il VI libro della *Repubblica* scopre nella *mimesis* il codice per la replica fedele dell'*aletheia* ²⁶. Certo sulle strade aspre dell'*aletheia* procede la filosofia per *episteme*. Non è da bandire dalla città ideale l'*agathos zographos*, che nella *mimesis* prova il rapporto con il paradigma, con la condizione degli dei (471 c-473 b). Un risultato della *mimesis* è la trama della *Repubblica*, la replica fedele della ricerca sulla città ideale ²⁷. In funzione della *mimesis*, per la ricerca sulla città ideale giunge nella *Repubblica* il mito (375 e-376 e). Platone ben presto richiama l'*agathos zographos* e ne suggerisce un profilo

²³ Cf. M. Tulli, *La mimesis nel III libro della Repubblica: il rapporto di Platone con la tradizione*, in N. Notomi, L. Brisson (ed.), *Dialogues on Plato's Politeia (Republic)*, Sankt Augustin 2013, 314-318.

²⁴ Il canone qui è la pittura: forse traspare l'ammirazione per Polignoto, un paradigma per la raffigurazione dell'*ethos*. Cf. M. Villela-Petit, *La question de l'image artistique dans le Sophiste*, in P. Aubenque, M. Narcy (ed.), *Études sur le Sophiste de Platon*, Napoli 1991, 53-90.

²⁵ Cf. S. Büttner, *Die Literaturtheorie bei Platon und ihre anthropologische Begründung*, Tübingen-Basel 2000, 144-214.

²⁶ Un codice che non offusca il campo dell'*aletheia*, perché rende il concreto impianto della ricerca sempre controllabile. Cf. L. Palumbo, *Mimesis*, Napoli 2008, 237-301.

²⁷ Cf. R. A. Naddaff, *Exiling the Poets*, Chicago-London 2002, 37-66.

adeguato. Con la filosofia, l'*agathos zographos* procede per la *paideia* e per la *trophe* della città ideale (484 a-485 a). Non è difficile scorgere qui Platone, l'*agathos zographos* della città ideale che nella *Repubblica* splende²⁸. Per la consuetudine con *to physei dikaion kai kalon kai sophron*, per la consuetudine con il paradigma, l'*agathos zographos* ne offre un'immagine plausibile (500 b-502 a). Ma perché il rifiuto della *mimesis* con il III e con il X libro della *Repubblica*? La soluzione certo non manca. Platone con il V e con il VI libro della *Repubblica* osserva per la *mimesis* l'*agathos zographos*, invece con il III e con il X libro della *Repubblica* respinge il rapporto che ha Omero con la *mimesis* o il rapporto con la *mimesis* della tragedia. Non è minima la distanza fra la *Repubblica* e l'*Iliade* o l'*Odissea* e fra la *Repubblica* e l'*Antiope* o l'*Ippolito*. Platone con il V e con il VI libro della *Repubblica* ne richiama la ragione: il sapere. Questo è il discrimine, il sapere, non la forza della *mimesis*, il codice per la produzione poetica²⁹. Il risultato della *mimesis* è certo auspicabile, se l'autore ha il sapere, se per la *mimesis* procede nel segno dell'*orthotes*. Omero non ha il sapere, non offre nel segno dall'*orthotes* l'*Iliade* o l'*Odissea*. Con la tragedia, svanisce l'*ophelia*, perché, se l'autore non ha il sapere, la forza della *mimesis* al culmine trova l'*Antiope* o l'*Ippolito*, con la disgregazione della città reale.

Proprio nel *Timeo* traspare un rifiuto della *mimesis* che richiama il risultato nel III e nel X libro della *Repubblica*: un rifiuto che giunge nel *Timeo* dopo il veloce schema che non è possibile distinguere dalla *Repubblica*, dalla ricerca sulla città ideale (19 b-20 c). Ma la prospettiva che la critica riconosce qui è conciliabile con la riflessione sulla *mimesis* nel V e nel VI libro della *Repubblica*. Certo nel *Timeo* il rifiuto non stupisce, perché deriva dalla coscienza di un grande scarto che dalla *paideia* e dalla *trophe* indispensabile per la creazione della città ideale divide la trama della produzione poetica³⁰. Crizia, nel *Timeo* destinatario della *paideia* e della *trophe* che Socrate ha delineato il giorno prima, è l'*agathos zographos* che procede per il racconto su Atlantide³¹. La palese coerenza che stringe il rifiuto della *mimesis* nel *Timeo* con la riflessione sulla *mimesis* nel V e nel VI libro della *Repubblica* è la palese coerenza che stringe il rifiuto della *mimesis* nel *Timeo* con la riflessione sulla *mimesis* nel *Crizia*. Il rifiuto apre il campo al superamento, con la filosofia, con il sapere che Socrate suggerisce³². Un superamento che nel *Timeo* e nel

²⁸ Forse la riflessione sulla *mimesis* ha nella *Repubblica* un rapporto con il gusto per le metafore. Cf. T. A. Szlezák, *La Repubblica di Platone*, Brescia 2003, 35-56.

²⁹ Cf. F. Trabattoni, *Il sapere del filosofo*, in M. Vegetti (ed.), *Platone. La Repubblica*, V, Napoli 2003, 151-186.

³⁰ Socrate con la *paideia* e con la *trophe* indispensabile per la creazione della città ideale richiama il risultato della ricerca nella *Repubblica*, la filosofia che suggerisce il *katholou* per la produzione poetica. Un *katholou* che non offre Omero, che non pervade le singole scene di Sofocle, di Euripide, della tragedia che frequentava Socrate. Invece Socrate per la tradizione peripatetica, per Satiro (38 IV-39 I Schorn) e per Diogene Laerzio (II 18), è ispiratore di Euripide. Cf. S. Schorn, *Satyros aus Kallatis*, Basel 2004, 220-243.

³¹ Cf. J. Bryan, *Likeness and Likelihood in the Presocratics and Plato*, Cambridge-New York 2012, 114-160.

³² Da qui la riabilitazione della *mimesis* che Aristotele conferma nella *Poetica*, nella prima sezione che della *mimesis* indica il mezzo, l'oggetto, il modo (1447 a 8-1448 b 3). Cf. J. Dalfen, *Polis und Poiesis*, München 1974, 282-325.

Crizia giunge con il racconto su Atlantide, con la tradizione lunghissima che Solone scopre nella città di Sais, presso il Nilo, presso il Delta. Il rapporto fra terre lontane favorisce la proiezione della città ideale sulla città reale.

Platone, dopo il racconto su Atlantide nel *Timeo* e nel *Crizia*, osserva con le *Leggi* la musica per il valore attuale che ha il termine, il ritmo e l'armonia (667 b-668 c). Il problema è qui la definizione di un canone per la *mimesis*. Certo, il piacere che il giovane scopre con il concreto impegno per apprendere non è che il piacere dell'*aletheia*, il più grande³³. Ma il piacere per lo più nasce dalla *mimesis*, con il gusto per il simile, non con il concreto impegno per apprendere. Platone riconosce il canone per la *mimesis* pur sempre nell'*aletheia*, ma la distanza è inevitabile: non la trama dell'*aletheia*, ma il rapporto fra il risultato della *mimesis* e la trama dell'*aletheia*. Il canone per la *mimesis* deriva dunque dall'*orthotes*, il risultato più alto della *mimesis* è la replica fedele³⁴. Platone procede qui oltre la musica. Il piacere che il giovane scopre con il concreto impegno per apprendere di per sé richiama la trama della produzione poetica e giunge per la produzione poetica il canone della *mimesis*. Il testo che non respinge il paradigma è il migliore possibile. Se nasce dalla *mimesis*, il piacere ha la forza di un elemento naturale, *to parepomenon*. Con la *mimesis*, con la produzione poetica, è possibile un contatto con il paradigma, con il sapere. Il risultato della *mimesis* giova, se l'autore procede nel segno dell'*orthotes*. Platone scopre nella *mimesis* il codice per la produzione poetica e, al di là della *mimesis*, indica il discrimine fra la musica negativa e la musica positiva, il sapere, il discrimine fra la produzione poetica non conciliabile con la città ideale dell'ospite di Atene, di Clinia, di Megillo, e il dialogo, la tragedia nella forma nuova, indispensabile per la *paideia*.

Prima delle *Leggi*, non molto per l'ordine fra le opere che la critica per lo più suggerisce, Platone conferma nel *Timeo* e nel *Crizia* che rispecchiare il sapere, il paradigma dell'*arete* maturato nella *Repubblica*, è possibile³⁵. In Egitto splende un passato conciliabile con il paradigma, con la città ideale, con il *katholou* della produzione poetica. L'esercito di Atene respinge l'esercito di Atlantide, perché ha in sé la forza del *dikaion*, dell'*agathon*, del *kalon*, la forza della città ideale. *Crizia* nel *Timeo* e nel *Crizia* con il racconto su Atlantide offre un'immagine dinamica della città ideale che Platone, al culmine della ricerca, osserva. Un risultato che non stupisce: *Crizia* è il destinatario della *paideia* e della *trophe* che Socrate ha delineato il

³³ Cf. K. Schöpsdau, *Platon, Nomoi (Gesetze), Buch I-III*, Göttingen 1994, 318-322.

³⁴ Palese lo spessore che ha la replica fedele del *kalon*, sia per *hoson* sia per *hoion*. Cf. M. Tulli, *Platone fra musica e letteratura nel II libro delle Leggi*, in P. Volpe Cacciatore (ed.), *Musica e generi letterari nella Grecia di età classica*, Napoli 2007, 129-142.

³⁵ Cf. L. Brandwood, *Stilometry and Chronology*, in R. Kraut (ed.), *The Cambridge Companion to Plato*, Cambridge-New York-Melbourne 1992, 90-120.

giorno prima ³⁶. Emerge qui la costellazione di parole che offre la riflessione sulla musica nelle *Leggi*. Per la musica Platone scopre auspicabile nelle *Leggi* la condizione che nel *Timeo* ha Crizia.

La trama della *mimesis* favorisce nel *Timeo* e nel *Crizia* un'immagine dinamica della città ideale nel segno dell'*orthotes*. Platone trascende il *kath'hekaston*, la ricostruzione di un passato, con il *katholou* della produzione poetica. Il racconto su Atlantide rivendica il passato di Atene al panorama della città ideale che offre Socrate. Nel *Timeo* e nel *Crizia*, giunge con il dialogo la forza della produzione poetica per la *mimesis* di un paradigma. Solone rende possibile, con il viaggio in Egitto, il rapporto fra la città ideale della *Repubblica* e le ombre della città reale.

³⁶ Cf. M. Erler, *Idealità e storia*, "Elenchos" 19 (1998), 5-28. Dalla *paideia* e dalla *trophe* che Socrate ha delineato il giorno prima nasce un paradigma per la *mimesis* nel segno dell'*orthotes*.

Heinz-Joachim Fischer

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Die geostrategische Bedeutung der Religion im Mittelmeer als Modell der Geschichte

Gewöhnlich gehen die meisten in den Vatikanischen Museen zu Rom achtlos daran vorbei. Es gibt hier Wichtigeres, Kunstvolleres zu sehen als diese beiden Schlachtenszenen, auf dem Weg zu den Meisterwerken des Raffael in den Stanzen, zu jenen des Michelangelo in der Sixtinischen Kapelle. Aber nicht der Zufall hat so kriegerische Szenen in den Haupt-Palazzo des Papstes gebracht, sondern ausdrücklicher Auftrag der Hausherren. Denn die Geschichte, auch die zwischen Christentum und Islam, ist im Vatikan nie gleichgültiger Vergessenheit anheim gestellt. Die „Memoria“, die Erinnerung an historisches Geschehen, wird vielmehr getreulich aufbewahrt, von Generation zu Generation in der Tradition der Ämter, von Jahrhundert zu Jahrhundert in der kirchlichen Liturgie und – wie hier - aus gegebenem Anlass „zu ewigem Andenken“ mit einem Kunstwerk in Szene gesetzt. Der Vatikan kann wegen seiner lückenlosen Überlieferungen in Archiven oder mit Kunstwerken seit zwei Jahrtausenden als das beste Gedächtnis der Welt gelten.

Es war der Renaissance-Papst Leo X. (1513 bis 1521), ein Medici aus der Banken- und Kunststadt Florenz, der Anfang des unruhigen 16. Jahrhunderts seinen heiligen Namensvorgänger, Leo IV., aus dem dunklen 9. Saeculum feiern und dessen wunderbaren Sieg über muslimische Sarazenen in der Seeschlacht bei Ostia , der Hafenstadt Roms, verewigen wollte, in der „Sala dell’ Incendio“. Das war programmatisch, in einer Zeit der Bedrängnis. Die Reformbestrebungen in der Kirche bedrängten die Papstfürsten, die muslimischen Osmanen bedrohten das Abendland nach dem Untergang des byzantinischen ost-römischen Reiches mit dem Fall Konstantinopels Ende Mai 1453.

Denn, so dachte und denkt man in Rom: Nicht das Christentum hat die Feindseligkeiten zwischen Kirche und Moschee eröffnet und immer wieder weiter geführt, sondern der Islam. Nach dem Auftreten des Propheten Mohammed in Arabien griff die neue Glaubenslehre seit dem 7. Jahrhundert rund um das Mittelmeer über Spanien bis nach Frankreich aus. Dann jedoch werden muslimische Truppen im Jahr 732 bei Tours und Poitiers von dem Franken Karl Martell geschlagen und über die Pyrenäen zurückgeworfen. Im August 846 rücken Sarazenen, gut organisierte Piraten-Einheiten, von See her gegen Rom vor, entweihen zum Entsetzen der abendländischen Christenheit die Kirchen der Apostelfürsten, Sankt Paul vor den Mauern und Sankt Peter, und plündern deren Schätze aus einem halben Jahrtausend. Leo IV. (847 bis 855) ruft die italienischen Seestädte Amalfi, Neapel und Gaeta zu Hilfe und betet dazu: „Gott, verleihe

Kraft den Armen dieser Gläubigen, die wider die Feinde deiner Kirche streiten, auf dass der gewonnene Sieg deinem heiligen Namen bei allen Völkern zum Ruhme gereiche!“ Es hilft; ein Sturm verwüstet die Schiffe der Sarazenen, mehr als die päpstlichen Streiter. Der Papst betreibt nun mit Hilfe aus dem ganzen westlichen Europa auch den Bau einer riesigen Befestigung um den Vatikan; bis heute stehen diese „Leoninischen Mauern“ rings um den kleinen Kirchenstaat.

Das gute geschichtliche Gedächtnis ohne ideologische Scheuklappen erzählt noch mehr in Rom: Die bewaffneten Wallfahrten im Zeichen des Halbmondes dauerten viel länger als die abendländischen Kreuzzüge und waren vor allem für den Islam von dauerhafterem Erfolg gekrönt; im Gegensatz zu denen unter dem Kreuz. Denn die Länder rund um das Mittelmeer waren beim Schwinden des Imperium Romanum, des alten West-Römischen Reiches, Christenland. Das war am Ende der Antike, nach dem 5./6. Jahrhundert, zu jener Zeit, als bald der Islam begann. Die Völker von den Säulen des Herkules (Gibraltar) über Kleinasien, Asia Minor, die heutige Türkei, bis zum Schwarzen Meer und zu den Wüsten Arabiens bekannten sich zum Glauben an Jesus Christus. Da ist nichts vergessen worden unter dem Bischof von Rom.

1. Kein Revanchismus

Es ist nur ein kirchenhistorisches Relikt, allerdings von nicht zu unterschätzender Bedeutung, dass in dem offiziellen Päpstlichen Jahrbuch („Annuario Pontificio“) des Vatikans noch immer die uralten Kirchenprovinzen der Antike in Afrika und Asien verzeichnet sind, als Titelsitze für Auxiliar-Bischöfe. Jene Bistümer rund um das Mittelmeer, die in einer Jahrhunderte langen Schwächephase des Abendlands im beginnenden Mittelalter an den Islam verloren gingen. An den Bischofssitzen der Kirchenväter des Urchristentums stehen Moscheen. Diese Diözesen der christlichen Antike sind von den Anhängern des Propheten Mohammed vor Jahrhunderten erobert worden. Also, und das wird im Vatikan nicht vergessen, nicht die Kreuzzüge markieren den Beginn des christlich-islamischen „Dialogs“, sondern die Eroberungen christlicher Gebiete durch muslimische Krieger.

Bei den „Titular“-Bischöfen und –Erzbischöfen herrscht freilich kein Revanchismus, das Gelüst, diese Gebiete wieder geistlich zu erobern. Aber doch eine gewisse Neugier. So reiste etwa der deutsche Kurienbischof Josef Clemens, wie er in einem Gespräch ganz entspannt erzählt, nach der Ernennung (durch Johannes Paul II. am 25. November 2003) und der Weihe (durch Kardinal Joseph Ratzinger am 6. Januar 2004) in sein virtuelles Bistum Segerme (Henchir-El-Arat) im nordafrikanischen Tunesien. Vielleicht war ihm etwas wehmütig, aber er erinnert sich mehr an die freundlichen Gespräche mit den Gebildeten dort, einer Museumsdirektorin etwa, die ihn durch ihre Offenheit ohne jedes Misstrauen beeindruckte. Die christliche Geschichte Tunesiens liegt ja auch schon geraume Zeit zurück.

Der deutsche Erzbischof Erwin Ender, lange Jahre im diplomatischen Dienst des Heiligen Stuhls, hält es eher für ein nettes Kuriosum, wie er lächelnd berichtet. Er ist Titular-Bischof von dem Bistum „Germania“ in Numidien, ebenfalls im heutigen Tunesien gelegen, und war von 2003 bis 2007 Apostolischer Nuntius des Papstes in Germania, wie Deutschland. „Eine überraschende Fügung der Vorsehung“, nennt Ender das in seiner Residenz in Berlin-Kreuzberg. Aber er würde nicht im Traum daran denken, die zu Zeiten des Kirchenlehrers Augustinus im 4. und 5. Jahrhundert florierende Christen-Diözese „in Besitz nehmen“ zu wollen, wie es die Bischöfe sonst am Anfang mit ihren Kirchenprovinzen machen. Bei den Stichworten Islam und Muslime denkt der Erzbischof an seine Jahre von 1990 bis 1997 als Botschafter des Papstes im Sudan, in der Hauptstadt Khartum mit ihren gewaltigen Problemen, nachdenklich, traurig, weil die Lage für Christen und Muslime so bedrückend erschien.

2. Gebete und Sieg

Es war wieder ein Leo-Papst, der XIII. (1878 bis 1903), der einen weiteren entscheidenden Sieg über Muslime feiern und verewigen wollte, 200 Jahre nach der Schlacht am Kahlenberg vor Wien gegen die Türken am 12. September 1683. Der damalige Papst, Innozenz XI. (1676 bis 1689), schmiedete eine Christen-Koalition, nicht nur gegen die Osmanen, sondern auch gegen Ludwig XIV. von Frankreich, der seinerseits das habsburgische Österreich schwächen wollte. Nach dem Abzug der Türken betete Innozenz: „Deine Rechte, Herr, hat den Feind geschlagen.“

Andere schrieben es dem Eingreifen der Madonna zu und stifteten allein in Rom zwei schöne Kirchen ihr zu Ehren, „Santa Maria della Vittoria“ in der Nähe der Diokletians-Thermen und „Nome di Maria“ am Trajansforum. Dem Polenkönig Jan Sobieski als Führer des Entsatzheeres kam das militärische Verdienst zu, die osmanischen Belagerer geschlagen zu haben, und einem polnischen Maler, Jan Alois Matejko, zwei Jahrhunderte später der Auftrag, in dem zweiten Saal vor den Raffael-Stanzen ein riesiges Gemälde zu schaffen. „Ad perpetuam rei memoriam“. Um die Sache nie zu vergessen, dass damals Muslime von Europa abgewiesen wurden. 1683 begann in Wien der machtpolitische Niedergang des Islam und der Aufstieg der europäischen Mächte, nun auch mit dem Ausgreifen in islamische Stammlande.

Warum man in Rom die Erinnerung pflegt? Erstens, wie man in der Ewigen Stadt lernt, weil die Römer das schon immer seit der Antike taten. Sicher auch, wie jetzt im Vatikan zugegeben wird, um den geschichtlichen Rückblick im Zorn nicht allein auf die Kreuzzüge fixiert zu lassen. Vielleicht auch, um aus der Geschichte zu lernen, vorsichtiger mit dem Vorwurf der Aggressivität von Religionen umzugehen. Als etwa im 18. Jahrhundert die großen Lehrer der europäischen Aufklärung Toleranz predigten und vorschlugen, als echte wahre Religion nur noch reine Humanität zu akzeptieren, fingen europäische Groß-

mächte erst richtig an zu kolonialisieren. Engländer und Franzosen hinterließen gerade bei den Arabern mit der Zivilisierung im Zeichen der Aufklärung bis heute tiefe Spuren. Die römischen Kirchenhistoriker, wie etwa Walter Brandmüller, Präsident des „Päpstlichen Komitees für Geschichtswissenschaften“, sind deshalb nicht bereit, die Spannungen zwischen christlichen und muslimischen Völkern allein mit widerstreitenden Religionen zu erklären. Machtpolitik verbräme sich zuweilen gern mit Religion, geben sie zu bedenken.

Die intellektuelle Theorie und die machtpolitische Ideologie vom Zusammenprall der Religionen wurden in der Kirche seit dem Zweiten Vatikanischen Konzil (1962 bis 1965) eindeutig zurückgewiesen. Die Erklärung über die nicht-christlichen Religionen und jene über die Religionsfreiheit setzten den Dialog als oberste Maxime der Christen fest. Daran halten sich Päpste, Bischöfe und – bis auf wenige katholische Fundamentalisten – alle Gläubigen.

3. Sekretariat für die nicht-Christen – Rat für den interreligiösen Dialog

Es blieb nicht bei feierlichen Erklärungen. Schon von Paul VI. wurde im Mai 1964 ein „Sekretariat für die Nicht-Christen“, also für die Beziehungen zu den anderen Weltreligionen und religiösen Gemeinschaften eingerichtet. Johannes Paul II. schuf daraus im Juni 1988 den jetzigen „Rat für den interreligiösen Dialog“. Gebetstreffen des Papstes mit Vertretern der Weltreligionen, etwa in dem umbrischen Städtchen Assisi, der Heimat des friedliebenden Franziskus, waren zuerst (1986) eine Sensation; dann leuchteten sie allen ein. So führt die Kirche den Dialog mit dem Islam nicht erst seit dem Aufbrechen eines internationalen Terrorismus aus dem Geist des islamischen Extremismus.

Berührungängste mit dem Islam hatte wohl noch Paul VI.; er suchte sie jedoch zu überwinden und zeigte sich bei Begegnungen mit Muslimen auf den internationalen Reisen bemüht tapfer. Johannes Paul II., kannte keine Furcht und hatte zudem ein ausgewogenes Geschichtsbewusstsein. Seine vierte Reise ins nicht-italienische Ausland führte ihn im November 1979 in die Türkei (mit 99 Prozent Muslimen). Nach dem Attentat gegen den Papst im Mai 1981 erfuhr man, dass die päpstliche Visite in der offiziell laizistischen, doch islamisch geprägten Türkei immerhin soviel Unwillen hervorgerufen hatte, dass ein Extremist namens Ali Agca sich schon damals öffentlich für den Mord an dem Papst angedient hatte; eineinhalb Jahre später versuchte er ihn. Beim Besuch im christlich-muslimisch gemischten Nigeria im Februar 1982 musste Johannes Paul II. dann erleben, dass ihm die geistlichen Vertreter der muslimischen Bevölkerung im nördlichen Kaduna Treffen und Dialog verweigerten. Das machte ihn, wie erinnerlich, ziemlich nachdenklich, hielt den Papst jedoch nicht davon ab, weiter islamische Länder zu besuchen und überall muslimische Geistliche zu treffen.

Johannes Paul II. tat viel dafür, den Widerstreit zweier Religionen – Gottessohn Jesus Christus hier, Allahs Prophet Mohammed dort – in einen friedlichen Wettbewerb zugunsten des Menschen und der Menschheit einmünden zu lassen. Durch Dialog die Konkurrenz der Kulturen und Religionen entschärfen, ist seither die vatikanische Leitlinie, in der Diplomatie wie in den päpstlichen Verlautbarungen.

Die Päpste, Paul VI. und Johannes Paul II., nahmen sogar hin, dass in Rom die größte Moschee Europas gebaut wurde. Das umgekehrte Ansinnen, in Mekka eine christliche Kathedrale zu errichten, würde vermutlich zu Aufruhr in der islamischen Welt führen. Allein die hypothetische Erörterung einer solchen Utopie empfinden Muslime als Entweihung ihrer heiligen Stätten, als Gotteslästerung.

So konnte der Vatikan lange nur einen Dialog der kleinen Schritte führen. Eine untadelige Grußbotschaft des „Interreligiösen Rates“ zum Ende des Fastenmonats Ramadan an die „lieben muslimischen Freunde“ oder respektvolle Worte des Papstes bei passender Gelegenheit, freundliche Gesten dazu. Doch ohne Aufsehen und ohne öffentliche Aufmerksamkeit – darauf legt der Islam-Abteilungsleiter im „Rat“, Khaled B. Akasheh, Wert – wurde ein Netzwerk mit muslimischen Gesprächspartnern, mit „Autoritäten des Islam“ aufgebaut.

Dabei gibt es für den Vatikan nicht „den“ Islam. Nicht einmal abstrakt, als philosophisch-theologisches Glaubenssystem, weil da wie im Christentum Vieles zu unterscheiden ist. Die große Weltreligion des Islam, gestiftet im 7. Jahrhundert durch den Propheten Mohammed, mit rund 1,2 Milliarden Anhängern in vielen Ländern der Erde, vor allem verbreitet in dem Staatengürtel von Marokko bis Indonesien, inzwischen auch in Europa, verlangt das genaue Hinschauen.

4. Kein Papst bei den Muslimen

Die Muslime sind so zahlreich wie die Katholiken, doch ohne Papst. Kein Papst könne also, gibt Khaled Akasheh zu bedenken, zur Feder oder zum Telefon greifen und seinen muslimischen Amtskollegen bitten, die Extremisten in den eigenen Reihen zu ermahnen: sie sollten es mit dem Fundamentalismus, der willkürlichen, wortwörtlichen Auslegung mancher Offenbarungen nicht zu genau nehmen und vor allem der Gewalt als Mittel zur Lösung von Konflikten widersagen. Immer wieder haben die Päpste die Führer anderer Religionsgemeinschaften aufgefordert, ihren Gefolgsleuten die Erwägung und den Einsatz von Gewaltmitteln als unmenschlich und widergöttlich auszureden. Oft musste man in Rom erfahren, dass es mit der Dialogbereitschaft auf muslimischer Seite höchst unterschiedlich bestellt ist.

Dass Johannes Paul II. als erster Papst im Mai 2001 in Damaskus in der geheiligten Omajjaden-Moschee zusammen mit muslimischen Führern betete, markiert ein historisches Datum und sicherte dem Papst

Anerkennung in der islamischen Welt. Noch größer wurde dieses Prestige, als Johannes Paul II. sich entschieden, mehrfach und laut gegen die Kriege der Vereinigten Staaten im Irak aussprach. So wurden es keine Kreuzzüge einerseits, keine heilige Gegenwehr andererseits.

5. Friedliche Ausbreitung des Christentums

Die Grundlage der päpstlichen Islam-Politik bildet zunächst die milde Botschaft des Christentums von der Feindes- und Nächstenliebe; dem entspricht die friedliche Ausbreitung des Christentums in den ersten Jahrhunderten, gemäß, wie immer wieder im „Rat“ hervorgehoben wird, dem Auftrag des Jesus Christus. Wie es zum Schluss im letzten Kapitel (28.) des Matthäus-Evangelium heißt, Verse 19 und 20: „Darum geht hin und machet zu Jüngern alle Völker: taufet sie auf den Namen des Vaters und des Sohnes und des Heiligen Geistes und lehret sie halten alles, was ich euch befohlen habe.“ Das ist von Gewalt keine Rede.

Weiter bestimmend ist die philosophisch fundierte Überzeugung, dass Gewalt zur Lösung von Konflikten zwischen Völkern und Menschen nicht taue und deshalb scharf, einmütig und entschieden abgelehnt werden müsse. Im Vatikan wird jedoch immer mit Sorge darauf hingewiesen, dass Politik und Religion, weltliche und geistliche Herrschaft – entgegen den christlichen Einsichten und geschichtlichen Lehren in Europa – im Islam in eins fallen, wenn auch in den einzelnen Staaten unterschiedlich. Dies musste auch Johannes Paul II. erst genauer lernen, wie ich einmal bei einem Sommer-Seminar in der päpstlichen Residenz von Castel Gandolfo bei Rom im Kreis von Wissenschaftlern aus aller Welt und aus den wichtigen Religionen miterleben durfte.

Es bestehe zudem die Versuchung, besagt die vatikanische Analyse, politische Unterlegenheit gerade durch religiösen oder ideologischen Überschwang zu kompensieren. Deshalb stelle für den islamisch geprägten Staat der „Westen“ mit seinen liberalen, demokratischen (nach der Mehrheit, nicht nach der religiösen Lehre ausgerichteten) Vorstellungen etwas Feindliches dar; durch „westliche“ Ideen sei das ganze islamische System bedroht, fühlten sich religiöse Führer in die Enge getrieben, heißt es in den vatikanischen Ministerien. Deshalb wurde als diplomatische Devise ausgegeben: Nie etwas gegen den Islam im allgemeinen sagen und damit dem Reden von einem Zusammenstoß der Kulturen oder Religionen von Anfang an ausweichen!

Der Leiter des vatikanischen „Rats Gerechtigkeit und Frieden“, der italienische Kardinal Martino, traf eine einleuchtende Unterscheidung. Nicht zwischen den Weltreligionen und großen Kulturen komme es zu Zusammenstößen. Die Spannungen und Gewaltaufbrüche würden sich vielmehr „im Innern jeder einzelnen Zivilisation“ vollziehen. Hier finde die Auseinandersetzung zwischen Moderaten und Extremisten

statt, der Kampf gegen den Terrorismus sei eine Art „Vierter Weltkrieg“, nach dem Dritten „Kalten“. Kardinal Martino konnte dieses Urteil durch eine vierzigjährige Erfahrung als „Weltenbummler“ im kirchlichen Dienst und als Vatikan-Beobachter bei den Vereinten Nationen in New York untermauern. Er berichtet: „Delegationen aus verschiedenen islamischen Ländern kamen in den Vatikan, um dem Papst für seine Friedensbemühungen zu danken, dafür, dass er diese furchtbare Bombe (vom Zusammenstoß der Kulturen) entschärft hat.“

6. Trotz der Schwierigkeiten zuversichtlich

Wie schwierig es ist, mit den Muslimen zu diskutieren, wissen seit langem die Verantwortlichen im „Interreligiösen Dialog-Rat“ und der Sonder-„Kommission für die religiösen Beziehungen zu den Muslimen“. Man könne sich gerade noch auf allgemeine Grundsätze von Frieden und Versöhnung verständigen, wie es periodisch bei bilateralen Treffen geschieht. Wie es auch die römische „Gemeinschaft Sant' Egidio“, eine internationale Bewegung engagierter Katholiken mit dem Zentrum in Rom, versucht. Aber lange galt es als unmöglich, zu verbindlichen Absprachen und Verpflichtungen zu kommen. Im Islam gebe es eben keine unbestrittenen, allgemein anerkannten Autoritäten, die zudem die Macht hätten, ihre Ideen auch gegen Widerstände durchzusetzen, wird stets in Rom geklagt. Aber der jordanische Monsignore am Islam-Pult im „Rat“ zeigt sich mit jugendlichem Lächeln dennoch zuversichtlich.

Die Verwirklichung der päpstlichen Leitlinien in der Außenpolitik obliegt dem Staatssekretariat, dem leitenden Kardinal als Premierminister, und dem für die Beziehungen zu den Staaten zuständigen „Sekretär“, dem „Außenminister“, einem Erzbischof. Das eine ist jedoch, als „Heiliger Stuhl“, als Papst-Staat mit internationaler moralischer Autorität, Gutwetter für den Frieden zu machen, auch mit arabisch-muslimischen Ländern mittels diplomatischer Beziehungen. Das andere ist, für die Christen, im besonderen für die kleinen katholischen Gemeinden in diesen Staaten verlässliche Bedingungen für die frei Ausübung der Religion zu sichern. (Dafür sind die früheren Erfahrungswerte der vatikanischen Ostpolitik gegenüber den kommunistischen Regimen nützlich.) Nicht immer stimmen da die Beurteilungen der päpstlichen Nuntien, die Wünsche der Bischöfe in den Ortskirchen mit Hunderttausenden von Christen und die Überlegungen der Weltpolitiker im Vatikan überein.

Im Apostolischen Palast des Papstes wird weniger über den „Führungswechsel“ bei den Weltreligionen – von der katholischen Kirche zur muslimischen Weltgemeinde – diskutiert, sondern man geht ins Detail. Wie ist die Lage der christlichen Minderheiten, der oft winzigen katholischen Gemeinden in muslimischen Staaten? Welche Perspektiven bieten sich in den „gemischten“ Ländern wie Indien oder Indonesien, wo es nicht nur um die Beziehungen zwischen Christen und Muslims geht, wo vielmehr auch andere

Relionsgemeinschaften beteiligt sind? Welche Folgerungen lassen sich aus der Entwicklung in den pluralistischen Ländern mit immer stärkeren muslimischen Gruppen, wie Frankreich, Deutschland, Spanien und auch Italien, ziehen? Da stoßen selbst die klugen päpstlichen Diplomaten an die Grenzen von abstrakten Leitlinien und müssen anderen in der weiten Welt die Lösung von Problemen überlassen.

<Der Text folgt im wesentlichen Darlegungen, die der Autor in seinem Buch, Heinz-Joachim Fischer, Zwischen Rom und Mekka. Die Päpste und der Islam, München 2009, veröffentlicht hat.>

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Personal view and experience on internationalization of graduate education in nuclear physics

1. Introduction

First of all, I would like to take this opportunity to thank Professor Giacomo de Angelis and Professor Franco Gianturco for their kind invitation to Alexander von Humboldt-Kolleg, "At the Crossroad between Africa, Asia and Europe: Challenges and Perspectives", organized by the Alexander-von-Humboldt Association of Italy in Venice, island of San Servolo and nice hospitality.

It is a great honor for me to share with you my personal view and experience on internationalization of graduate education in nuclear physics. Definitely I feel also the pressure after the wonderful lectures of Professor Langanke, Professor Cuttone, Professor Gales and Professor Azajez. They introduced already the nuclear physics, nuclear astrophysics, nuclear facilities, accelerator based science and the impacts of new generation of research infrastructures. What can I do?

Perhaps you may notice that I have at least two differences with the previous lecturers. All of them are the directors of the world leading nuclear sciences institutes, but not me. All of them come from developed countries, except me. I am from a developing country, China. Therefore the difficulties and problems I met in nuclear physics research may be useful for the innovation and research in the Mediterranean countries.

I will be talking about the internationalization of graduate education from my personal view on this subject. And the keywords that I will be talking about are the followings, what Peking University is, and what nuclear physics is, then how challenging and expensive this subject is, why it needs collaboration. Then I will emphasize the importance and necessity of international collaboration on nuclear physics research and education.

As I come from Peking University in Beijing, I just borrowed these sentences from its homepage to introduce Peking University. Peking University was founded about 115 years ago, and it was originally called the Imperial University of Peking. It was the first national university covering comprehensive subjects, and it has been a leading institution of higher education in China since its establishment.



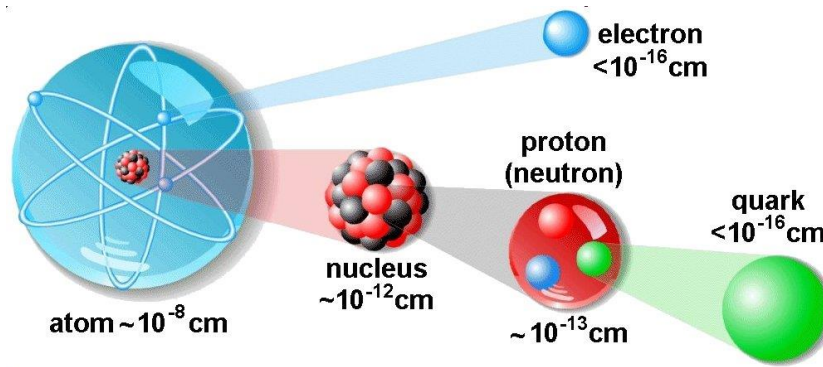
The western gate of Peking University

2. Nuclear Physics

The first question I will ask is “What is Nuclear Physics?”

Normally for us in Asia, we always have language problems. While we talk about nuclear science, it includes both Nuclear Science and Technology in English. But in Chinese or maybe in Japanese, normally we have to clearly specify the nuclear science and the nuclear technology. Nuclear Science is not that far from us or the world. Everyday when you look at the Sun, you will notice that all the energy we have is essentially coming from the Sun. And the Sun has lots of nuclear reactions there, which has brought us the energy. We also know that one of the clean energy sources is the nuclear energy, coming from nuclear power plants. If you visit a hospital, you will find a lot of machines there are provided by nuclear technology. Also the nuclear science is connected with the origin of the universe. Therefore, the nuclear science is not far from us. But what I am talking about is not the technology part. It is the pure science part, and that is the nuclear physics.

From high school, we learned that atoms are made of a nucleus of protons and neutrons and a cloud of electrons. Electrons are in constant motion around the nucleus, while the protons and neutrons move within the nucleus. Neutrons and protons are each composed of three quarks. As far as scientists can tell at the moment, quarks and electrons are among the most fundamental forms of matter. Therefore we may say that the atomic nucleus is core of matter and fuel for star. An element is one type of atom distinguished by its atomic number — the number of protons in its nucleus. Normally, each element has a name given by the discoverer. By far, none of the elements is named by Asian countries. Therefore one of the hot topics or competitions in nuclear physics is try to synthesize a new element and win the right to name it.



Structure of Matter

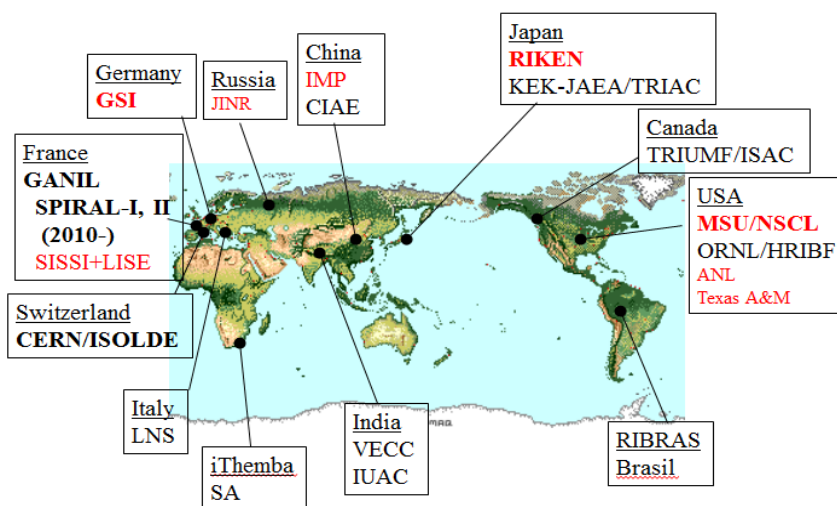
What does a Nuclear Physicist do? They are essentially working on the nuclear chart. You can already know the nuclear chart in many textbooks in the undergraduate studies. The nuclear chart has a horizontal axis for neutron number, and the vertical one for proton number. Sequentially the nucleus you can imagine corresponds to a point in the nuclear chart. Then nuclear physicists are supposed to study the structure, reaction, decay and also history of each nucleus. So you know now what a nuclear physicist is doing. We study the structure, reaction, decay and also history of each nucleus in the nuclear chart.

Just list some members in this nuclear chart. Essentially in the nature, we have less than 300 nuclei, which made the world. Then, in the laboratory, there are around 3000 nuclei produced by nuclear physicists. And the nuclear theoreticians predict more than 7000 nuclides, which should exist but most of them are still waiting to be discovered experimentally. Although there is no name matter for each nucleus, which is represented by its element's name and supplemented by its mass number, still there is also hot competition for nuclear physics laboratories to produce new nucleus. Among the nuclei produced by nuclear physicists, China contributed 26 nuclei, about 1%, (<http://www.nscl.msu.edu/~thoennes/isotopes/>). This is reasonable for a developing country.

3. Nuclear facilities

In order to study nuclear physics, we need a series of facilities corresponding to different energy scale to study different layers of the matter structures, for example, from vacuums to quark gluon plasma, to nucleons, to nuclei, and to stars. The usually known facilities such as, Large Hadron Collider (LHC), Relativistic Heavy Ion Collider (RHIC), Continuous Electron Beam Accelerator Facility (CEBAF), Facility for Anti-proton and Ion Research (FAIR), and Rare Isotope Accelerator (RIA) etc., mentioned by the previous lecturers, are examples of the nuclear physics facilities to study the matter structures.

These nuclear physics facilities are always very expensive. Here I just show you some examples which are used to understand how nucleon makes nucleus. In Japan, Radioactive Ion Beam Factory located in RIKEN cost more than 500 million dollars. Similarly in China, about 10 years ago, the government invested 300 million Chinese Yuan (RMB) to construct the cooling storage ring. From this point, you can see how poor China is. That was also the reason why I want to study nuclear physics from theoretical point of view.



Main Rare Isotope Accelerators in the world

Why we need such large scale facilities? The reason is that they can provide us unique opportunity to investigate many fields in different disciplines. For example, with this machine I just introduced, we can investigate the Galaxy, the Geosciences, Bioscience as well as Microworld, such as atomic structures and nuclear structures, and so on.

4. A Glimpse of Nuclear Structure in China

Obviously I am too young to cover the development of the nuclear structure in China. From senior professors and scientists, I indirectly learned that the nuclear structure study was started as earlier as 1950s with the pioneers of this field returning back to China. Several Universities also started to establish department on nuclear science then. One thing should be mentioned is that in summer 1959 in Chengdu, Sichuan province, the first summer school on nuclear theory in China was hold. The lecture note was later published as a monograph in Chinese with the title “Atomic Nucleus Theory”. The season and place, Summer Chengdu, is used as the name of the author instead of the main lecturers, Professors Liming Yang and Min Yu. In 1966, unfortunately, almost all the academic activities were stopped.



The First National Nuclear Structure Conference 1986

After the so-called Cultural Revolution from 1966 to 1976, academic and research institutions that had been closed were reopened, and scientists were summoned back to their laboratories from manual labor in the countryside. Scientific journals resumed publication, often carrying reports of research completed before everything stopped in 1966. In order to catch up with the world-class standards as quickly as possible, the policy of opening up to the outside world is adopted by participating in international conferences, cooperating in projects with foreign scientists, and sending graduate students and senior researchers to foreign universities for training and joint research. Here with examples in the field of nuclear structure, I hope I can give you rough ideas for the rapid progress of science and technology in China.

In 1986, the First National Nuclear Structure Conference was held in Chongqing, China, initialized mainly by Professors Jinyan Zeng in Peking University and Hongzhou Sun in Tsinghua University. Although it is called conference, it is rather a school introducing mainly nuclear high spin states and Interacting Boson Model by several senior scientists. It was a great honor for me to be there. I was a senior student then and it is also my first conference experience.

After the First National Nuclear Structure Conference, it becomes a routine to organize such a conference in China by every two years. With numerous efforts of many physicists, in particular, the head of the Nuclear Structure Division in China Nuclear Physics Society, Professor Enguang Zhao, Institute of Theoretical Physics, Chinese Academy of Sciences, lots of achievement in nuclear structure studies have been made and lots of talented young people joined in these field. All of these have been demonstrated in the conference photo taken in Hefei, Anhui province in 2002.



The Ninth National Nuclear Structure Conference 2002

After the Ninth National Nuclear Structure Conference in 2002, I was selected as the head of the Nuclear Structure Division. For the last decade, we witness an ever increasing support for fundamental research in China and the booming of the graduate education. Therefore in last year, there are more than 250 participants in the Fourteenth National Nuclear Structure Conference 2012 held in Huzhou, Zhejiang Province.



Fourteenth National Nuclear Structure Conference 2012

5. Nuclear structure theory

About 15 years ago, in 1997, I was offered a professorship position in Peking University. Since China was poor, I prefer to investigate in nuclear physics from theoretical point of view. So essentially, we studied from some theories, and we want to investigate the ground state properties, excited state properties as well as the reaction decay and the history of the nucleus. This involves nuclear structure as well as astrophysics. For example, the solar abundance of all the elements of the Universe could be understood in nuclear physics.

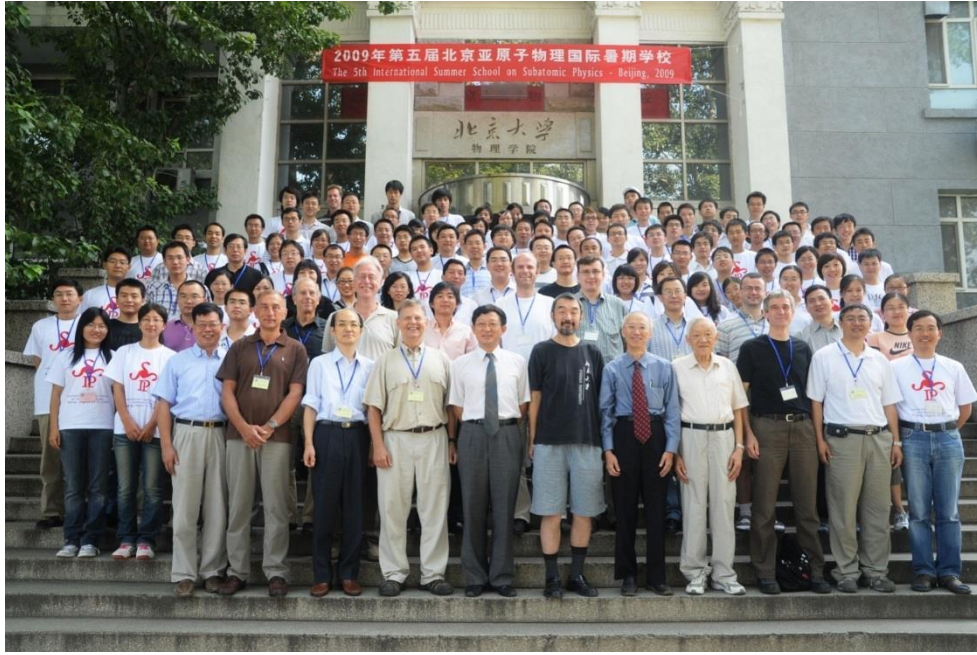
As I mentioned, China was still a developing country and the support for fundamental research is not that good yet. Friends and colleagues warned me a lot about the challenge and difficulty. However I have a naïve scenario. Most people may agree that Chinese are intelligent. Thinking about the population in China, it is expected that China may contribute one fourth or fifth of the big discoveries and inventions. If it is not the case, the reason might be that the young talented people miss the chance to work or contact with the leading scientist in respective fields.

Meanwhile, 15 years ago, I used to be the youngest professor in Peking University; I did not know yet how to teach graduate students. Therefore what we needed was try to have collaborations. I wanted to build an international school, in such a way we could invite distinguished scientists and professors from other countries to teach our students as well as to teach us how to become successful professors.



2nd International Summer School in Beijing in 2001

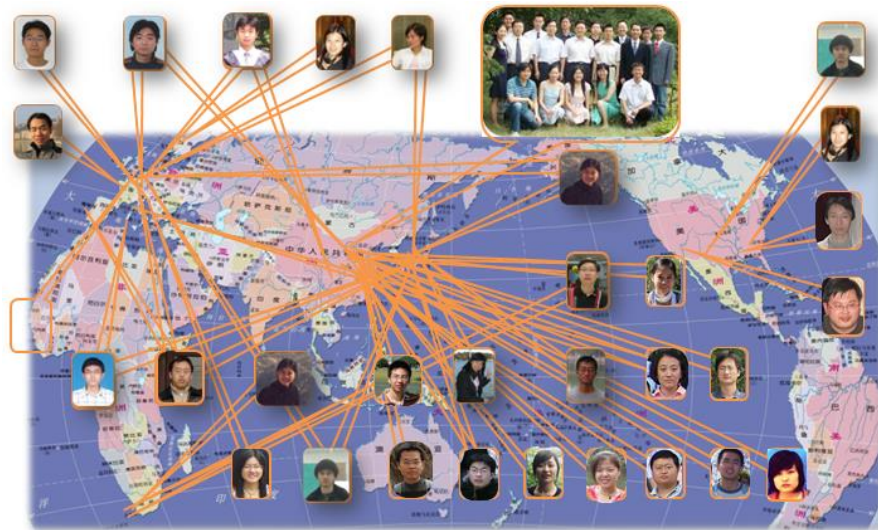
This started from 1999. We had the first International Summer School in Beijing with the support not only in spirit but also financially from Japan, Germany, France, and Europe-Asian Project. Since then, we already have the 2nd, 3rd, 4th and 5th, and two years ago we had the 6th International Summer School. Limited by the length, I selected only the school photos in 2001 and 2009 as examples to show the success of the school.



5th International Summer School in Beijing in 2009

Meanwhile, I also tried to send students abroad. The reason to send our students abroad is learning and interacting with students in other universities and also they also try to learn from other professors. The following photo shows my students or former students who have studied or visited abroad. And there is also a photo we took in 1997 about this group. Some of the collaborative institutes include, for example, we have established collaborations with RIKEN, Osaka University, Tohoku University, Niigata University, and University of Aizu in Japan. We also have a lot of collaborations with European institutions such as TU Munich and GSI in Germany, Nuclear Physics Institute of Orsay in France, Royal Institute of Technology in Sweden, University Zagreb in Croatia, University Milano and University Catania in Italy. We have also link with Stellenbosch University in South Africa.

To sum up for the international collaboration of graduate education, what I should emphasize is that Nuclear Physics belongs to one of the fundamental sciences, and it is always based on large scale facility, and international collaboration is always needed. It is quite expensive and difficult to explore the matter structure at Fermi level. Physicists working in this field have a strong demand for collaboration. As a starting point, we need always a common interest. And definitely we need support, not only from the institute or department of the school but also from the university and the government. The graduate students are the key components of this international graduate education. If we want to have a successful collaboration, the professors should be original, active and open. We also need university and the government not only for education and financial support but also the regulations.



Academic Exchanges and Collaborations

So to finish my talk, I just use the sentence from Confucius. “If there are three persons, one of them must be qualified as my teacher!” Using this sentence, I would like to summarize my understanding of the internationalization of graduate education.

Thank you for your attention!

Acknowledge: Part of the presentation has been given in Niigata Graduate Research Forum in January 2013. I am indebted to the Global Circus Project Team, Graduate School of Science and Technology, Niigata University for typing out my presentation. Thanks should also be given to many friends and collaborators, in particular, W. H. Long, M. Matsuo, J.Y. Zeng, H. Q. Zhang, S. Q. Zhang, E. G. Zhao, and S. G. Zhou, who kindly go through the manuscript and give many valuable suggestions.

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The Caucasus in the Geographic and Cosmological Conceptions of the Greeks in the Archaic Period

The *Prometheus bound* is a very famous Greek tragical piece by Æschylus which deals with Caucasus.

The tragedy was first played at an unknown date a few years before the middle of the 5th century BC. The myth which Æschylus narrates that Prometheus was punished by Zeus for having stolen fire from the Olympus and given it to humankind. He was enchained to the rocks of Caucasus. Oceanus and Io visited him and obtained his prophecies. At the end, Hermes threatened Prometheus because this latter knew of a secret concerning Zeus' sovereignty. Prometheus refused to reveal it and consequently Zeus threw him into the Tartarus.

An interesting aspect of this work is its cosmological concept, and, in particular, the characterization of the extreme East and West of the earth. The eastern location of Caucasus and Prometheus himself is often underlined. Caucasus is conceived as the end of the earth, and placed at the edge of the known world. At verses 719-722 the poet makes Prometheus forecast the Io's journey:

until you come to Caucasus itself, loftiest of mountains... You must pass over its crests, which neighbor the stars, and enter upon a southward course.

Io can not go further East, because Caucasus is the eastern boundary of earth, and must turn southward. Æschylus describes also Io's journey to lands where the Gorgons dwell.¹ Those lands lie beyond the Ocean and beyond the area which the sun provides with light during the day.

The scenario of Prometheus' punishment was supposed to be close to Colchis, where Helios' palace stood and the Argonauts came and met Medea, Helios' granddaughter. Appianus itemizes the attractions in the eastern parts of the Black Sea in the 1st century BC:

¹ Æsch., *Prom.vinctus* 790 ss. One can not rule out that the Æschylean cosmology conceived the antipodes, beyond the ocean, where the Gorgons lived; see Mastrocinque 1978: 25-28. On Æschylean geographic conceptions see Forbiger 1842: 27-37, who did not notice the strong complementarity between Atlas and Prometheus and their mountains.

Pompey advanced to Colchis in order to gain knowledge of the country visited by the Argonauts, the Dioscuri, and Heracles, and he especially desired to see the place where they say that Prometheus was fastened to Mount Caucasus.²

Colchis was Helios' abode, and the land where the sun raises. Greek myths are known, which tell the story of Medea's cauldron in which an old ram gets young again (fig. 1). In the same cauldron or in another similar one Helios crosses the ocean to reach Colchis, in the East³ (fig. 2), and Hercules uses it to reach Erythia, beyond the western ocean (fig. 3). Those myths depended on Egyptian conceptions concerning Ra, the ram-headed sun god, who was identified with Osiris and supposed to recover his youth in a cauldron (fig. 4), and then to raise again in the morning.⁴ Moreover, in the Egyptian beliefs, the ram was the form of the "old sun" at sunset.⁵

Greek mythology concerning the sun was greatly indebted to Egyptian and Near-Eastern conceptions.

The Greeks supposed that a mountain stood in the farthest East, whose peak reached the sky, and that Helios' palace was nearby, at the feet of this mountain.

329 BC Alexander the Great went as far as Bactria and his Macedonian army firstly saw the Hindu Kush (Paropanisus). Megasthenes testifies that the Macedonians called this mountain range Caucasus.⁶ The myth of Prometheus was consequently located there, at the new edge of the earth.⁷

Æschylus knew also of a western counterpart of Prometheus and Caucasus, namely Atlas and the Mount Atlas. The poet describes Prometheus' grief concerning his brother Atlas, another Titan who was punished by Zeus and forced to support the burden of heaven by standing on the western part of the earth:

I am distressed by the fate of my brother Atlas, who, towards the west, stands bearing on his shoulders the pillar of heaven and earth, a burden not easy for his arms to grasp.⁸

Æschylus speaks of a column between earth and heaven: κίον' οὐρανοῦ τε καὶ χθονός. His conception of two columns supporting the heaven East and West was dealt with again in his Promethean tetralogy. In the *Prometheus liberatus* Heracles threw an arrow and killed the eagle which ate Prometheus' liver. The old Titan was consequently set free after 30000 years punishment. This tragedy is not preserved, but we know of the myth thanks to Hyginus,⁹ who says that Heracles was sent by Euristheus to take the apples

² App., *Mithrid.* 103.

³ See Valouris 1990: 1015, nos 99-100; on the archaic Greek conceptions of the world: Ballabriga 1986.

⁴ See Mastrocinque 2001.

⁵ Ryhiner 1977.

⁶ Megasthenes, *FHG*, fr. 21.

⁷ Anonymus (Pseudo-Callisthenes), *De historia Alexandri*, FGrH 153, T+F 2b, fr. 4; Curt.Rufus 7.3.22.

⁸ Æsch., *Prom.vinctus* 348-350.

⁹ Hygin., *Astron.* 2.15.5.

of Hesperides. However he went to Caucasus because he did not know the way. A fragment of Æschylus¹⁰ says that Heracles, after visiting Prometheus, went to the Hesperides. Apollodorus¹¹ present his journey from Libya, across the Ocean, to Caucasus, where Heracles set Prometheus free. Therefore Heracles wandered from the eastern to the western rim of the earth.

Prometheus knew the secrets of stars and taught humankind about them.¹² Caucasus was supposed to be the place where the Chaldeans observed and studied the stars.¹³ Atlas too was supposed to know the secrets of stars and to have discovered astrology.¹⁴ Atlas was located in the West, close to where Helios reached the farthest boundaries of the earth with his chariot.¹⁵ According to Hesiod's *Theogony*,¹⁶ Atlas and Prometheus were the only Titans Zeus did not throw into the Tartarus. Homer¹⁷ speaks of Atlas' columns, whereas the later tradition knows of only one, but the second column is indeed assigned to Prometheus. Herodotus¹⁸ reports a belief of the Atlantes, a people of north-western Africa, according to which the Mount Atlas was shaped as a gigantic column, whose top supported the heavenly vault. On the other hand, the columns of Heracles were located in the same western area of the earth.

A confusion was even possible between Mount Atlas and Caucasus, for Dionysius of Halicarnassus¹⁹ maintains that Atlas dwelled on the Caucasus.

A Laconian cup from Vulci, assigned to the Painter of Arcesilaos (middle of the 6th century BC)²⁰, shows the two Titans: Atlas supporting the sky, flanked by a snake, and Prometheus bound to a column, which is at the end of the heavenly dome and bears a cock, while an eagle is preying on hero's liver (fig. 5). Hesiodus and the cup prove that this sort of cosmology was very ancient. It traces back to the orientali- zing age, when the Greek mythology was enormously enriched by near-eastern and Egyptian influences (fig. 6).

Another "confusion" between Prometheus and Atlas is worth noticing. Philo of Byblos,²¹ in his work on the Phoenician mythology, presents a similar myth, in which Cronos takes over the role of Zeus, and At-

¹⁰ TGF, fr. 326a.

¹¹ Apollod., *Bibl.* 2.119.

¹² Æsch., *Prom.v.* 457-460: I taught them to discern the risings of the stars and their settings, which are difficult to distinguish.

¹³ Cic., *de div.* 1.36.

¹⁴ See for ex. Germanicus, *Aratea*, fr. 5: *Serv., in Aen.* 1.741-3.

¹⁵ Ovid., *Met.* 4.632-634.

¹⁶ Hes., *Theog.* 507-532.

¹⁷ Hom., *Od.* 1.53-54.

¹⁸ Her. 4.184.

¹⁹ Dion.Hal. 1.61.1.

²⁰ In the Museo Gregoriano Etrusco (Vatican Museums): De Griño, Olmos, Arce, *Balmaseida* 1986: 4, no.1.

²¹ FGH 790, fr. 2.20: τὸν ἀδελφὸν τὸν ἴδιον Ἄτλαντα ὑπονοήσας ὁ Κρόνος μετὰ γνώμης τοῦ Ἑρμοῦ εἰς βᾶθος γῆς ἐμβαλῶν κατέχωσε. Euhemerus, FGH 63, F 14 = fr.15-16 Vallauri (*Lact., Div. inst.* I.14.7-12) narrates of Zeus' suspicions concerning a plot by Saturnus and of Saturnus' persecution by his son. This account shows some similarities with that by Philo; cf. Baumgarten 1981: 198.

las that of Prometheus. This author reports that El-Cronos suspected of his brother Atlas, Hermes gave him his advice, and consequently Cronos struck Atlas and made him collapse into the depths of earth. This was the same destiny of Prometheus at the end of Æschylus' tragedy. Philo evidently did not borrow this myth from Æschylus, who speaks of Prometheus and not of Atlas; he simply gave Greek names to Phoenician gods and presented in this way a very ancient local mythology.²² A Cananean and Phoenician myth lays under the Hellenized account by Philo and concerns the rising and falling of the morning star. The Bible presents a variant of this myth in a famous passage of Isaiah on Lucifer:

How you are fallen from heaven, o Day Star, son of Dawn! How you are cut down to the ground, you who laid the nations low! You said in your heart, 'I will ascend to heaven; above the stars of God, I will set my throne on high; I will sit on the mount of assembly in the far north; I will ascend above the heights of the clouds, I will make myself like the Most High. But you are brought down to Sheol, to the depths of the Pit.'²³

The Greek culture admired this and other similar near-eastern myths and thus conceived the story of Phaethon, the young son of Helios and Climene, half-brother of Prometheus, according to Ovid, or, according to Hesiod,²⁴ the son of Tithonos and grandson of Cephalos and Eos. Eos was the Titaness of the Dawn. Phaethon drove the chariot of the sun, was unable to follow the correct way, and Zeus struck him down with his thunderbolt.²⁵ Phaethon's story was told by Æschylus in his lost *Heliades* and repeated with many particulars by Ovid.²⁶

Typhon was supposed to bear the column of the sky,²⁷ his den was located in the East, between Cilicia and Northern Syria, and was finally struck by Zeus' thunderbolts.

Traces of those myths have been identified also in Canaan, where a god of the dawn and of the morning star, Athtar, failed in his attempt of occupying the throne of the supreme god.²⁸ His name recurs in many languages of the Near East and indicates the morning star, the dawn, the sky. His name is masculine and corresponds to the feminine name Ashtart, the goddess of beauty, loveliness, nightly sky, dusk, and the evening star.²⁹

Prometheus challenged Zeus and was struck in the same manner as Lucifer and Atlas.

²² Du Mesnil du Buisson 1966: 45; Baumgarten, as quoted.

²³ *Isaiah* 14.12-15; cf. Caquot 1958; Heiser 2001.

²⁴ Hes., *Theog.* 984; Apollod., *Bibl.* III.14.3.

²⁵ On the link with Lucifer' story see Wilamowitz 1883; Gunkel: 132-3; Gruppe: 62; Caquot, as quoted, 52; Knaak 1909; Astour 1965: 268-9.

²⁶ *Metamorph.* I.750-II.405.

²⁷ Pind., *Pyth.* 1.36.

²⁸ Tablet KTU 1.2 III; Del Olmo Lete 1981, 166-8; Herdner 1963: 5-12; see Heiser 2001. On the possible iconography: Du Mesnil du Buisson 1967-68.

²⁹ See Caquot 1958.

In the ancient near eastern art images of the star of dawn and dusk were numerous, and they are placed at the rim of the earth, at the base of the curved sky.³⁰

Those myths explained in similar ways how the morning star disappeared after its attempt of becoming the king of the sky.

In Æschylus' age the Greeks knew that the Persian empire extended as far as Indus valley and Indu Kush, i.e. far beyond Caucasus eastwards. Several Greeks were deported by Darius into the eastern satrapies, and others worked in the Persian capitals or at the royal court.³¹ The Greeks knew as well that neither the palace of Helios stood in Colchis nor the pick of Caucasus touched the sky, as the inhabitants of Dioscourias could testify. But Æschylus was not a geographer; he was simply narrating a myth which was conceived in the archaic age, when Esiod twinned Prometheus' and Atlas' destiny and when the Laconian cup was painted. The Greeks inherited from Egypt and the Near East several myths concerning the sun, the morning star, and the structure of heaven. They adapted them to their knowledge of the earth during the orientalizing age, when neither the Persian empire nor Greek colonies in the Black sea existed.

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³⁰ See Du Mesnil du Buisson 1967-68. I can not deal here with the theory of Charachidzé 1986, who presents a series of modern account concerning Amirani. He was a Caucasian hero who shares with Prometheus some features. Charachidzé put forward the hypothesis that some Caucasian myths influenced the Greek beliefs in the archaic period. In any case, Amirani's mythology does not deal with the pillars of the earth, with the morning stars and other features of Prometheus' myth which are presented here.

³¹ On the Greek knowledge of and presence in Bactria and India: Tarn 1938.

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1-53-54 ἔχει δέ τε κίονας αὐτὸς

μακράς, αἱ γαῖάν τε καὶ οὐρανὸν ἀμφὶς ἔχουσι.

Aeschylus Trag., Fragmenta

Tetralogy 32, play B, fragment 326a, line 8n

φησὶ γοῦν Προμηθεὺς παρ' αὐτῷ, καθηγούμενος Ἡρακλεῖ

τῶν ὁδῶν τῶν ἀπὸ Καυκάσου πρὸς τὰς Ἑσπερίδας·

M. Tullius Cicero. De Divinatione 1, section 36, line 17

<condemnemus> etiam Babylonem et eos, qui e Caucaso caeli signa servantes numeris et modis stellarum cursus persequuntur

721-2 You must pass over its crests, which neighbor the stars, and enter upon a southward course

πρὸς αὐτὸν Καύκασον μόλης, ὀρῶν ὕψιστον, ἔνθα ποταμὸς ἐκφυσᾷ μένος κροτάφων ἀπ' αὐτῶν.
ἀστρογείτονας δὲ χρῆ κορυφὰς ὑπερβάλλουσαν ἐς μεσημβρινὴν βῆναι κέλευθον

790 When you have crossed the stream that bounds the two continents, toward the flaming east, where the sun walks

Appianus Hist., Mithridatica (0551: 014)

M. Tullius Cicero, Tusculanae Disputationes

book 5, section 8, line 2

nec vero Atlans sustinere caelum nec Prometheus adfixus Caucaso

Hyginus Astronomus, Astronomica

book 2, chapter 15, section 5,

Hercules missus ab Eurystheo ad Hesperidum mala, nescius uiae, deuenit ad Promethea, quem in Caucaso monte uinctum fuisse supra diximus.

Aeschylus Trag., Fragmenta

Tetralogy 32, play B, fragment 326a, line 8n

φησὶ γοῦν Προμηθεὺς παρ' αὐτῶι, κατηγοούμενος Ἡρακλεῖ
τῶν ὁδῶν τῶν ἀπὸ Καυκάσου πρὸς τὰς Ἑσπερίδας·

M. Tullius Cicero. De Divinatione 1, section 36, line 17

<condemnemus> etiam Babylonem et eos, qui e Caucaso caeli signa servantes numeris et modis stellarum cursus persequuntur

Curt.Rufus 7.3.22 XVII dierum spatio Caucasum superavit exercitus. Rupes in eo X in circuitu stadia complectitur, IIII in altitudinem excedit, in qua uinctum Promethea fuisse antiquitas tradidit.

Anonymi Historici (FGrH), De historia Alexandri

Volume-Jacoby'-T+F 2b,153,T, fragment 4, line 5

ταῦτα γὰρ οἱ Ἕλληνες [καὶ] Καύκασον ὠνόμαζον, διέχοντα τῆς
Ἰνδικῆς πλείους ἢ τρισμυρίουσ σταδίους, καὶ ἔνταῦθα ἐμύθευσαν τὰ περὶ Προμηθέα
καὶ τὸν δεσμὸν αὐτοῦ· ταῦτα γὰρ τὰ ὕστατα πρὸς ἔω ἐγνώριζον οἱ τότε.

Megasthenes Hist., Fragmenta "FHG 2", Ed. Müller, K.

Fragment 21

Ἀλλὰ τὴν Ἄορνον γὰρ πέτρην, ἦντινα Ἀλέξανδρος βίη
ἐχειρώσατο, ὅτι Ἡρακλέης οὐ δυνατὸς ἐγένετο ἐξελεῖν,
Μακεδονικὸν δοκέει μοί τι κόμπασμα, κατάπερ καὶ τὸν
Παραπάμισον Καύκασον ἐκάλεον Μακεδόνες, οὐδέν τι
προσῆκοντα τοῦτον τῷ Καυκάσῳ.

[Ugaritic narrative poetry](#)

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Le drame des deux étoiles du matin et du soir dans l'Ancien Orient, Persica 3, 1967-68, 10-36

Lady Asherah of the Sea declares:
"Let Us make Ashtar the Terrible king!
Let Ashtar the Terrible reign!"

Thereupon Ashtar the Terrible
Goes into the heights of Saphon
That He may sit on the throne of Aliyan Baal.
His feet do not reach the footstool,
Nor does His head reach its top.
And Ashtar the Terrible says:
"I cannot rule in the heights of Saphon!"
Ashtar the Terrible goes down,
Goes down from the throne of Aliyan Baal,
That He may rule over all the grand earth.

According to a Cananean tradition the morning star was the god Ashtar. This star-god challenged the god of the sky, El. El sent a divine servant who threw him into the darkness of earth. Therefore the morning star disappeared. The evening star was Ashtart, who took the form of a lioness. She ate up the bull and put forward an antelope, symbol of nightly cool.

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The German-Arab cooperation: An Insight on the Experience of Young Arab Scientists

Abstract

Tunisia is one of the Arab countries that are experiencing critical transitional phase of their histories with profound transformation processes are taking place at political, social, economic, and educational levels with implications on the future of the country and its young generation. To succeed this transitional phase, Arab countries have been endowed with support from several neighbouring European countries, and Germany is becoming a leader partner is supporting higher education and research.

The aim of this paper is to highlight relevant experiences in R&D and significant initiatives undertaken by Arab young scientists in collaboration with German institutions by focusing on two success stories. The first is related to an organization founded by young Arab scientists, the Arab World Association of Young Scientists (ArabWAYS). A part from being among the first organizations to have collaborated with German, ArabWAYS, has co-organized the first German-Arab Forum in 2011 and it is still setting bridges between Arab countries and Germany. The second example is related to the first programmes launched by Germany for Tunisia and Egypt, called Transformation Partnership. EMPOWER Tunisia, standing for “Emerging Pollutants in Water and Wastewater in Tunisia” is one of the successful projects funded by DAAD to act as leverage for R&D and Good Governance in higher education and research in Tunisia. These two experiences resulted into tangible outcomes of successful collaborations led by young scientists in the Arab World.

1. Introduction

Arab countries have been endowed with support from several neighbouring European countries, and Germany is one of the leaders' partners. The German-Arab cooperation in scientific research dates back to the sixties. Formerly, cooperation with German institutions was framed by European programmes and based on formal cooperation established through Memorandums of Understanding in Sciences and Technologies since 1998. Now, Germany has become one of the main development cooperation partners and may be "on course to become the first" one.

Countries to be considered as pioneers in collaborating with German institutions are Egypt, Tunisia, Morocco, Arab Union Emirates, and Saudi Arabia. For embodying these collaborations and develop joint projects, these countries have signed Science and Technology Cooperation and cultural agreements. Accordingly, numbers of initiatives and programmes have been developed through the years. The major fields were focused not only on science and education, but were also extended to economy and industry. Here after are examples of events, networks, and partnership programmes carried out jointly by Germany and Arab countries from MENA region:

- The German-Arab Education and Vocational Training Forum launched in 2009. The last forum took place in Germany in 2012.

- The Arab States Research and Education Network (ASREN) founded and registered in 2010 in Dusseldorf, Germany.

- The AQWA Academy: an educational initiative taken by Aachen University and supported by the BMBF in the Water Sector to transfer knowledge and education. Partners involved include institutions from academia, research, and industry to offer a virtual platform with new learning methods with the aim to reduce unemployment and enhance skills in the professionals in the water sector.

- Transformation Partnership: a programme dedicated to support countries in political transition, namely Egypt and Tunisia. It was launched by the German Academic Exchange Service (DAAD) in 2011 to finance R&D projects set up between universities and research institutions and stakeholders like ministries, NGOs, agencies, etc. The programme is basically financed by the Ministry of Foreign Affairs to develop multidisciplinary projects.

- The German-Arab Women's Network Forum is a network established by the Euro-Mediterranean Association for Development and Cooperation e.v (EMA) with the aim to lead women for sustainable economic growth. To launch the network, the first conference was organized in 2012 in Jordan.

- The German-Arab Environmental Forum: organized by EMA to gather decision-makers, entrepreneurs, and scientists.

2. Facets of the German-Arab collaboration

2.1. Support of Higher Education and Research

Under the framework of bilateral and multilateral partnership, several EU institutions and actors, including the German ones, proposed programmes to support the efforts of Arab countries to enhance their higher education and research programmes. The collaboration was not so fruitful decades ago. The situation of the scientific collaboration between Arab and the 8 most scientific productive countries in the world (Canada, France, Germany, Great Britain, United States, India, Japan, and Russia) was described during the period 1981- 1986, showed that Egypt was by far the most active and largest scientific partner. The North African countries (Algeria, Morocco and Tunisia) were closer to France (Hempel and Rousselin 2012), while the Middle Eastern countries, like Egypt and Jordan, were closer to United States, and Great Britain; Germany was ranked third in terms of scientific collaboration (El Alami *et al.* 1992).

The collaboration of Tunisia and Morocco with Germany was very limited. Further analysis revealed that Egypt, Saudi Arabia and Tunisia were the three largest collaborators with the above developed countries with publication mainly focused on clinical medicine, and chemistry (20% of the publications) (El Alami *et al.* 1992). Arab countries – Morocco, Algeria, and Tunisia – continued to have active scientific cooperation with the international community, especially the OECD and France in particular, than other Mediterranean countries. Geographical proximity to Europe seems to be the major motivation of these countries' international scientific cooperation (Nour 2005).

The Arab Human Development Report, published by the United Nations Development Program in 2002 called for “a radical revision of education systems in Arab countries”. In fact, the level of resources devoted to S&T in the Arab countries is very low to allow development together with inadequate economic structures. Neither Gulf nor Mediterranean countries possess sufficient human or financial resources to promote S&T performance (Nour 2005). The poor quality “the Achilles heel of education in the Arab world” are calling for action in three broad areas: i) Enhancement of human capabilities; ii) Creation of strong synergy between education and the socio-economic system, and iii) Formulation of programmes for education reform at the pan-Arab level (El Kaffass 2007). In that regards, the Volkswagen Foundation, for example, launched a call to support Arab researchers in the humanities working in multilateral-cooperative research projects in the Arab world. In front of a backdrop of on-going upheaval in the Arab world, this call concentrated on supporting research on the social, political and economic transformation processes taking place in the region. A further aim was to reinforce networking between researchers in Germany and in the Arab region, as well as among the Arab project partners, and in particular to promote young academics. The Foundation was targeting submissions from researchers from North Africa and the Middle East and Islamic countries, as a whole, working in the humanities (social sciences, political science, and geography) with special interest in the transformation processes unfolding in the Arab

region. Building partnership with a German research institution and extending the network to other Arab countries was among the objectives, thus involving two of them in the project. Since 2012, the Volkswagen Foundation has granted funding to a total of five cooperation projects with Arab partners within this initiative.

2.2. Promotion of Women in Science

The role of women within the workforce in science and technology cannot be ignored any more. In this regards, the European Union like other countries advanced in science and technologies like USA, South Africa, and South Korea were shown to have failed to include women to an equal extent in the knowledge economy. In many cases their inclusion is estimated to be negligible despite the existence of policies to women's inclusion in those countries (Huyer and Hafkin 2012). In Arab countries, more specifically in North Africa, women are more enrolled than males in higher education. However, few females are working in science and less is involved in the private sector. Women represent only 25% of the total workforce in Arab countries (Dewedar 2012). In the West, the MENA region is perceived as exclusively dominated by males. However, there are successful female entrepreneurs and women in leading positions in Saudi Arabia or Libya, women who have achieved a distinguished status in their societies and who serve as a role model. Many of them face the same challenges as women in Germany, even though the environment in which they work is very different at times due to cultural differences.

In comparison with Arab countries in the MENA region, Tunisia is deemed as leader in providing equal opportunities to women in higher education and employment. Despite that majority of the students involved in higher education are females, few women are found in workplace. Several barriers are still hampering access to technology and learning, and participation in scientific research and employment. In Germany, the situation seems to be likely the same from this point of view. Women involved in the transfer of science and technology have fewer opportunities than males because partly of the unsuitable conditions or because of scarifying their career at the favour of their families (Dewedar 2012). Outperforming during their studies is no more a sufficient condition. Women still have to outperform to keep their position and be recognized in the society. Given the situation in both countries, Germany and Tunisia, the scope of the collaborations established between Tunisian and German institutions is the promotion of women in science. Germany is striving to enhance equal opportunities between men and women however it still has to do some efforts for achieving this goal. The Office of Equal Opportunities at the Technical University of Braunschweig with its targeted missions has an important role in taking up some challenges.

As a tangible result of the German-Arab cooperation for the promotion of women, the 1st German-Arab Women's Network Forum took place in Jordan in 2012. It was organized by the EMA. The Forum offered women from Germany and the MENA region an opportunity to create new networks and to exchange

opinions and ideas about the working conditions of women in both regions. EMA has also initiated a programme (Ouissal) for between German and Tunisia women with different business profiles to work in tandem as mentor and mentee, to develop a sustainable project.

3. German-Arab Collaborations

3.1. The Arab World Association of Young Scientists (ArabWAYS): an Outreach to Arab Young Scientists

After the revolution, numbers of initiatives were taken by NGO's and associations to raise awareness among young scientists about the transformations their countries are undergoing and the challenges to take up. The Arab World Association of Young Scientists (ArabWAYS) was among the first to gather young students and researchers belonging to different disciplines and living in various Arab countries to talk with their peers in Germany (Arab World Association of Young Scientists 2012).

ArabWAYS is an association recently registered in United Kingdom as Community Interest Company (C.I.C. No 8150004). It is involved in several international educational activities and is participating in many international scientific events. Currently, it is gathering thousands of young scientists from the whole Arab World organized into a virtual network. ArabWAYS aims at linking the Arab young scientists and setting up networks for working together in several fields including humanities and social sciences, engineering, medicine, etc. Among its missions are: (i) identification and addressing major issues of importance to science and Arab societies ; (ii) Facilitation of interaction between young scientists across all fields and from all Arab countries; (iii) Promotion of the participation of young scientists especially those poorly represented i.e. women researchers; (iv) Providing independent, authoritative approach to stimulate constructive dialogue between the young scientific community and international organizations; and (v) Raising awareness on the importance of science in the Arab societies. ArabWAYS is active through its representatives in the Arab countries and the Diaspora mainly in Europe and United States, who strive to extend partnership to new organizations and young scientists. The followings is a selection of milestones of ArabWAYS (Arab World Association of Young Scientists 2013).

3.2. ArabWAYS and the German partnership

3.2.1. The First German-Arab Forum

Despite its youth, ArabWAYS has pioneered in collaborating with German institutions in 2011, just after the revolution. In a successful attempt to gather German and Arab young students, it has jointly organized the *"First German-Arab Young Scientists Forum"* with Die Junge Akademie in 16-19 April 2011 in Berlin. The event was aimed at developing a network with the objective of advancing Arab-German scientific exchange and enhancing the networking of young researchers from Germany and the Arab countries. This event has gathered about 60 young participants with ages ranging between 25 and 40. A part

from German, Arab participants from some European countries like France and Portugal and from 8 Arab countries were present. All together, the participants' profiles covered nine fields of research falling within Natural Science, Social Science, and Humanities.

The Forum included various activities comprising working groups and panel discussion. The working groups gathering Arab and German students were organized to discuss three main burning current topics in education and research:

- The Arab Spring and its impact on young Arab researchers.
- Instruments and forms of cooperation between German and Arab institutions.
- Strengths and weaknesses of the research systems in Germany and Arab countries.

The outcomes of the forum can be summarized in the followings:

- The willing of the German institutions to improve the scientific cooperation between with the Arab world.
- The strong interest of the German institutions in engaging in German-Arab scientific dialogue in the near future.
- The identification of areas of cooperation that would help setting bridges between young scientists as individuals and institutions as governmental structures.
- The set up of a personal network is recommended to be an asset to be in permanent contact with knowledge.
- Facilitation of communication between people and scientists by the organization of meetings on a regular basis is required for maintaining good communication between partners.
- Internationalization of networking platform and integration for a sustainable collaboration between institutions.

As for the panel discussion, outstanding researchers and experts were invited to take part and share their experiences in research and education in various fields like history, science and technology archeology, etc. Namely were invited Prof. Dr. h.c. Christoph Marksches; Prof. Dr. Klaus Lucas; Prof. Dr. Angelika Neuwirth; Dr. Stephan Weber; Dr. Dr. h.c. Margeret van Ess.

As an attempt to bridge German and Arab participants, a meeting was organized with representatives of German organizations and foundations: the Alexander von Humboldt Foundation (AvH), the German Academic Exchange Service (DAAD), the Volkswagen Foundation, and the Center for International Cooperation at the Free University of Berlin. Thorough presentations introduced the opportunities offered in Germany for pursuing curricula and research in Germany for Arab students and researchers (Arab World Association of Young Scientists 2013).

3.2.2. Follow-up of the 1st German-Arab Forum

In collaboration and with the support of the Maghreb-Alexander von Humboldt Alumni Association,

ArabWAYS has co-organized the International Conference “New Prospects and Challenges for Science and Education in the MENA region” held in March 9-11, 2012, Marrakech, Morocco. This multi-disciplinary conference was also an opportunity to hold a follow-up session on the German-Arab Young Scientists Forum. With the new status of ArabWAYS, the association is looking forward to organizing a second Forum in the year 2014 jointly with the Alexander von Humboldt Association in Jordan.

3.2.3. The Global Young Academy (GYA)

Many members’ of ArabWAYS are active in various scientific societies to offer their experience and learn from their peers. Numbers of ArabWAYS members are also members of the Global Young Academy (GYA). In this effect, they have been invited to participate in the General Assembly held in South Africa in 2012, and recently in Germany, in 2013. It is worth underlining that GYA is collaborating with German National Academy of Sciences Leopoldina and has the support of the BMBF for financing its office at the Berlin Branderburgische Academy of Science (BBAW).

3.2.4. The Water Working Group Meeting

The Water Working Group is part of a joint project between the Network of African Science Academies and the German National Academy of Sciences. It was held in November 26-27 2012, Kenya. ArabWAYS has participated in this event, jointly with the African Academy of Science (AAS) to present and discuss the water situation in the North African countries. The meeting has presented and discussed the water situation in the African continent as a whole. For that purpose, sub-regional reports will be published as an outcome of the project and to point out the perspectives of cooperation with the African continent.

3.2.5. Miscellaneous activities

ArabWAYS has engaged in supporting education and research. Its members are participating in miscellaneous events supported by German organizations and governmental institutions. The Tunisian-German Research Group, IT-SEC group at University of Passau, has organized an international conference at the University of Passau and attended by hundreds of Tunisian and German students. The Tunisian Ambassador to Germany and German eminent professors and representatives of funding organizations have also attended.

ArabWAYS has participated with some of its collaborative NGOs in event supported by German organizations. Indeed, the Arab and Balkan countries cooperation on the thematic of climate change, renewable energies, environmental technologies, was developed with the aim of enhancing linkage of female scientists, developing mentorship programs, etc. This project is supported jointly by the Zoran Djindjic Foundation (Belgrade), the BMZ, and the Committee on Eastern European Economic relations in Germany.

4. Cooperation in Higher Education, Research, and Development: EMPOWER Tunisia

With the firm objective to support countries in transition, the German Government has reinforced its participation in the leverage of higher education in Tunisia by offering a programme of grants to support universities and research institutions. The “Transformation Partnership Programme” is among the first launched by the German Academic Exchange Services (DAAD) in 2011 (DAAD 2012a; Hempel and Rousselin 2012). The programme aimed at supporting young scientists from Tunisia by establishing a partnership with German universities over a period of two years within R&D cooperation projects. Building, Linking, Deepening, Reinforcing and Meeting were made as the five pillars of the collaboration between German and Arab countries through DAAD (DAAD 2012b). In Tunisia, 8 projects were accepted for funding out of more than a hundred submitted for grant. Four projects are built in bilateral cooperation with German universities while the others are multilateral projects carried out conjunctively with German and Egyptian institutions. The covered topics encompass: Inner Medicine, Water Management, Political Sciences, Computer sciences, Law, Electro-technics, Paediatrics, and Language. Involved Tunisian partners are a research institute (National Research Institute for Rural Engineering, Water and Forestry, INRGREF) and universities like Sousse, Carthage, Sfax, etc. From the German side, FU Berlin, UK Erlangen, IRZ Bonn, TU Braunschweig, TU Chemnitz, TU Dresden, UK Köln, etc. were partners.

4.1. “EMPOWERing” Tunisia

The EMPOWER Tunisia Project standing for “*EMerging POLLutants in Water and Wastewater in Tunisia*” is a project chaired by The Institute for Environmental and Sustainable Chemistry, co-chaired by INRGREF (Tunisia) in collaboration with the Higher Institute of Agronomy Chatt Meriem (ISA CM, Tunisia). It is putting in partnership these three institutes for 3 years (2012-2014). This project is one of the 4 on-going bilateral projects in Tunisia launched by the DAAD within the Transformation Partnership Programme in 2011 (Mahjoub *et al.* 2013).

This programme is offering a “seed money” for developing larger collaborative projects between the Arab and Euro-Mediterranean countries. “EMPOWER Tunisia” is setting up a network and expanding beyond the programme by foreseeing collaboration with other universities from Germany (Leuphana University Lüneburg), Arab countries (Algeria, Egypt, Jordan Lebanon, Libya, Morocco) and research institutions in Tunisia (Mahjoub and Mahjoub 2013). The Mediterranean Scientific Association of Environmental Protection (MESAEP) has already supported this initiative through the participation of its current and former presidents from Greece and Turkey, respectively.

4.2. Genesis of the project

EMPOWER Tunisia have seen the light thanks to the financial support of a Tunisian participation in the 16th Symposium of the Mediterranean Scientific Association of Environmental Protection (MESAEP) in 2011. DAAD was partially sponsoring the participation of some Arab participants from Tunisia and Morocco with the aim to introduce them in MESAEP and link them to the Mediterranean research network. The aim of the Tunisian participation was the presentation of the current status of wastewater reuse in the agriculture in Arab Countries with an emphasis on the occurrence of emerging pollutants in reclaimed water and exposed agricultural environment (water bodies, soil and groundwater).

4.3. Scope and aims

Through the workpackages, EMPOWER Tunisia is targeting the following objectives:

- Improving the state of knowledge and skills on emerging pollutants in water resources;
- Developing sustainable solutions for the problems of irrigation and water pollution;
- Supporting young/female scientists in a country in democratic transition;
- Implementing the rules of good university governance (Bahadir 2012).

4.4. Linking scientists' networks

The commitment of the MESAEP (Mediterranean Scientific Association of Environmental Protection) as a Euro-Mediterranean Association in this project without DAAD grant is a support in itself to enhance collaboration with Euro-Mediterranean universities and research centers, linking the Tunisian institutions and scientists with the Euro-Mediterranean Countries. Stabilizing long-term partnerships in all these countries is one of the goals pursued by this project. MESAEP will be a supporting partner of this transformation project in Tunisia in terms of societal and scientific developments granted through DAAD. Later, Tunisian experiences will serve as a good practice example to other Arab neighbors in similar situations. MESAEP will follow the project results participating in meetings by its own resources with nominated scientists, because the organization is of the opinion that this project will bring Southern with Northern Mediterranean countries into a very strong relationship that is missing at present (Mahjoub *et al.* 2013).

4.5. Knowledge transfer and skills enhancement

In order to transfer knowledge and enhance skills of the Tunisian scholars, technicians and senior scientists, several training sessions were organized in Germany on the analysis of emerging pollutants in water resources. The Tunisian visitors were introduced to the "German rules" and initiated to good laboratory practices, security measures in laboratories, standards operating procedures, etc. The Tunisian students

were enabled to work independently and perform environmental analysis of samples in their home country. These analyses would be confirmed later in the German laboratories using hyphenated analytical techniques that are not available in Tunisian laboratories.

4.6. Exchange of experience in research and higher education and enforcement of the rules of good governance

In this respect, visits of senior scientists, teachers and researchers, were organized to Germany. They have been introduced to their peers in the German University and research institutions like the Institute of Geo-ecology, Institute of Sanitary and Environmental Engineering, Institute of Water Management, Institute of Social Sciences, Prof. Ulrich Menzel, etc. Meetings were organized with decision-makers in the universities to present the German Educational System, its features, and the ways the rules of good governance are implemented with all partners and at all levels.

For the students, meetings were organized between German and Tunisian student both in Germany and in Tunisia to exchange ideas and experiences about the enrolment of students in the university governance, their organization and their role in perpetuating the rules of good governance in the university.

4.7. Filling the gap of scientific knowledge and bridging R&D

The involvement of stakeholders in the activities undertaken within the project is among the main targeted objectives. For this purpose, representatives from ministries, directorates, national agencies, end-users' associations, and institutions in charge of research and higher education were invited to take part in the project activities; this has started from the beginning by their invitation to the kick-off meeting of the project. A part from the exchange of informations on the quality of the water resources and the strategies of their preservation, the stakeholders took part in group discussions to make them aware of the importance of the open book policy between research and development structures and in R&D projects. The project coordinators and these representatives agreed to establish sustainable collaboration by exchanging data and results on the quality of water resources to fill the gap of knowledge related to the quality of water resources in Tunisia (Haddaoui.I. *et al.* 2012). Data and results underwent discussion then recommendations were emitted by participants and experts for improving the monitoring programmes, measured parameters of the water quality and for increasing the reliability of the results for pollution control, and preservation of water resources.

5. Conclusion

The German-Arab cooperation has known significant progress since the 60's. It has evolved from the informal collaboration involving individuals to the large partnership programmes developed between governments and from offering grants to students to the establishment of strategy of cooperation be-

yond the individual institutions. In order to enhance and widen the perspectives of this bilateral and multilateral cooperation several cultural and societal aspects should be taken into consideration to alleviate the difficulties that may prevent the partners, in various fields, from attaining their objectives. For instance, the complexity and slowness of the administrative system in Arab countries, the insufficient outreach to young/women scientists in the beginning of their careers, and the lack of communication should be overcome.

The extension of the collaboration to others Mediterranean and Arab countries and German Universities is a key factor for the extension of the network. Additionally, strengthening the existing and establishing new sustainable collaboration based on mutual trust, respect, and transparency are a must. These and others will be favored through the organization of joint events targeting key sectors, young scientists, and women in science.

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Renewable Energy Resources and Utilization: Comparative Study between Arab World and-Germany

Abstract: Worldwide nations are seeking for various kinds of energy sources that can be relied on to meet the growing demand for energy. The most promising resource to address is the renewable energy. Therefore extensive research, development and application are taking place in that field. Expansion of energy resources for the Arab world is necessary due to the profusion of these resources, particularly solar and wind power. Most Arab countries are part of the solar belt and possess potential in the field of wind energy used for power generation and sea water desalination, as well as hydropower in some countries. Therefore, it is essential for the Arab world to secure and expand their energy resources by utilizing the available renewable energy sources and localizing its conversion equipment through technology transfer from industrialized countries. Therefore, the main aim of this study is to present the recent statuses of renewable energy resources and utilization in Arab world compared with Germany as well as the form of Arab-Germany cooperation on the line of efficient utilization of renewable energy.

1. Introduction:

Natural resources such as sunlight, wind, rain, tides and geothermal heat provide “renewable energy”, which are, above all, naturally replenished. Renewables are replaced or renewed without contributing to global warming or other substantial environmental impacts; in addition, they can be utilized without any noticeable reduction in their future availability. Renewable energy sources (RES) currently supply approx. between 15 and 20 % of world’s total energy demand. Most countries have set ambitious goals to almost double the share of renewable energy to 20% in the overall energy consumption by the year 2020. The potential of RES is enormous as they can in principle meet many times the world’s energy demand. Solar energy, wind, biomass, hydropower, geothermal and wave energy can provide sustainable energy services, based on the use of routinely available, indigenous resources. Müller (2010) at German Aerospace Centre (DLR) has analysed renewable energy resources of 64 countries in Europe and MENA as shown in Fig. (1)

In the Arab world, the renewable energy sources are yet not utilized intensively enough to cover the growing energy demand. The main aspects that restrict the development of renewable energy sources are the low specific energy density and the large space requirements, both leading to high costs of these type energy production systems.

The main aim of this study is to present the recent statuses of renewable energy resources and their utilization in the Arab world compared with Germany as well as the form of Arab-Germany cooperation in the field of renewables. The comparison is made for solar, wind, hydropower, biomass, geothermal and wave energies

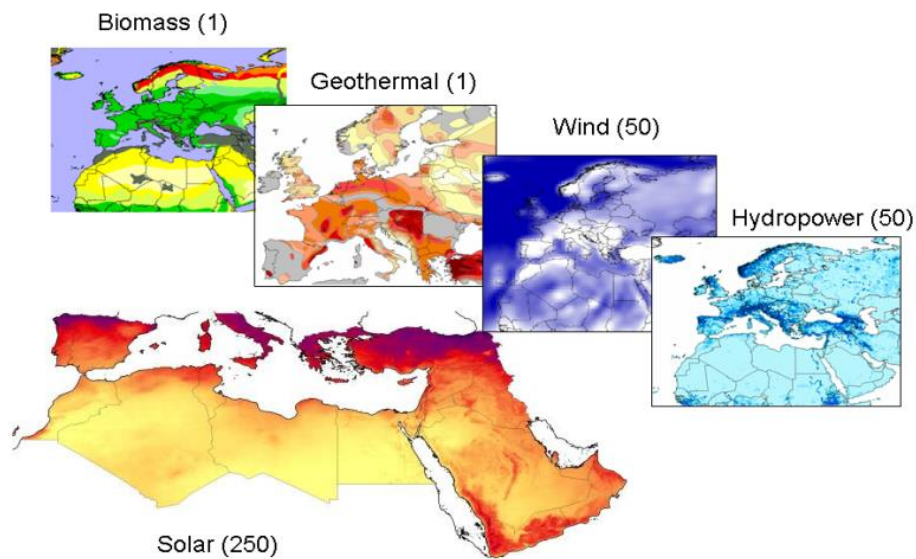


Fig. (1) Renewable energy resources of 64 countries in Europe and MENA (with max. yield in $\text{GWh}_{ei}/\text{km}^2/\text{y}$), from Müller (2010).

2. Renewable Energy Resources and Utilization

2.1 Solar Energy

Energy from the sun is virtually unlimited, and all feasibility studies estimate that there is enough sunshine to meet the world's entire energy needs many times over; however, it is difficult to harness that energy in useful and cost-effective ways. Currently there are four primary ways to utilize energy from the sun: (1) concentrated solar power (CSP); (2) converting sunlight directly into electricity with photovoltaic (PV) panels; (3) heating and cooling systems (solar thermal); and (4) solar lighting. The world map of yearly average solar radiation intensity on horizontal surface is shown in Fig. (2). It is clear from the figure that the Arab world is located in the belt with an average solar radiation energy of about $6 \text{ kWh}/\text{m}^2/\text{day}$, while Germany is about $2.5 \text{ kWh}/\text{m}^2/\text{day}$, (42%). On the other hand the growth curve of the installed PV solar energy systems is shown in Fig (3): in 2011 the total installed PV power capacity in Germany is 24,820 MW (BP 2012), while in all 22 Arab states it is zero. Also, the total energy produced

from solar source is shown for Germany and the Arab world in Fig. (4). From the figure it shown that in 2011 the total energy utilization in Germany is 19 TWh while it is 0.087 TWh in all Arab world.

It should be noted that the total area of 22 Arab states sums up to roughly 13,164,000 km² while Germany's total land area is about 357,000 km² (2.7 %). These numbers clearly indicate the need for further policies and strategies for utilization of solar energy as an available natural resource with technologies that meet the local operation conditions in Arab world countries, which are mostly hot arid and dusty environments.

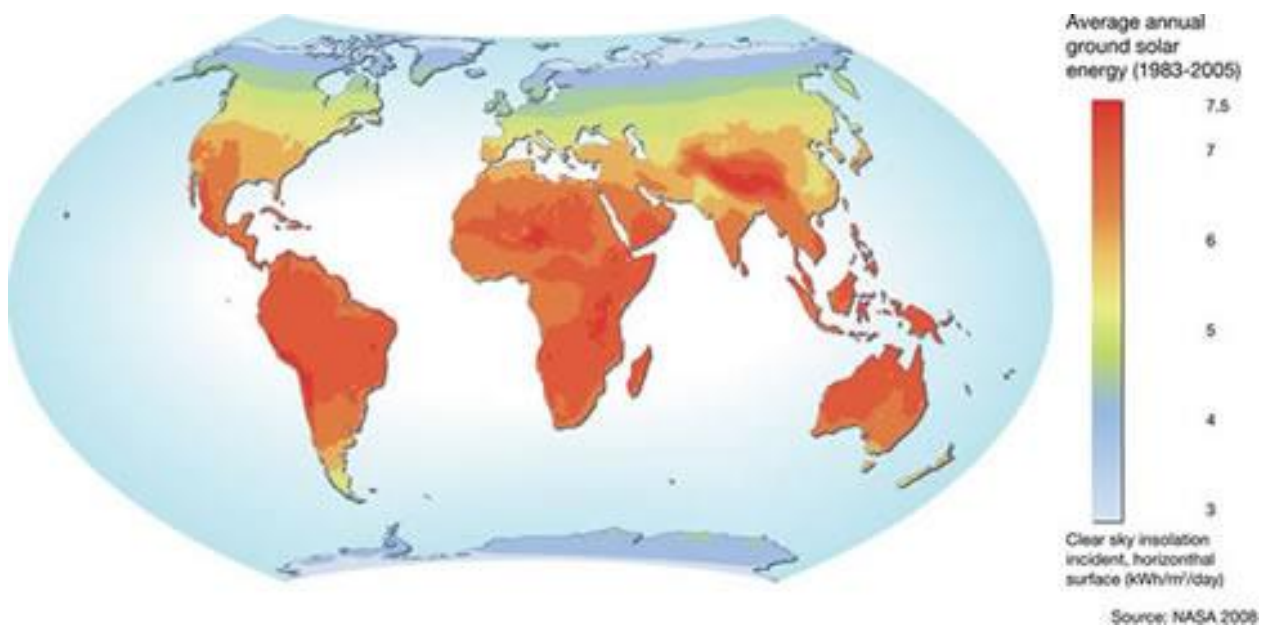


Fig. (2) Global solar energy distribution. Courtesy of NASA, 2008.

<http://www.dr-b-mattech.co.uk/uv%20map.html>

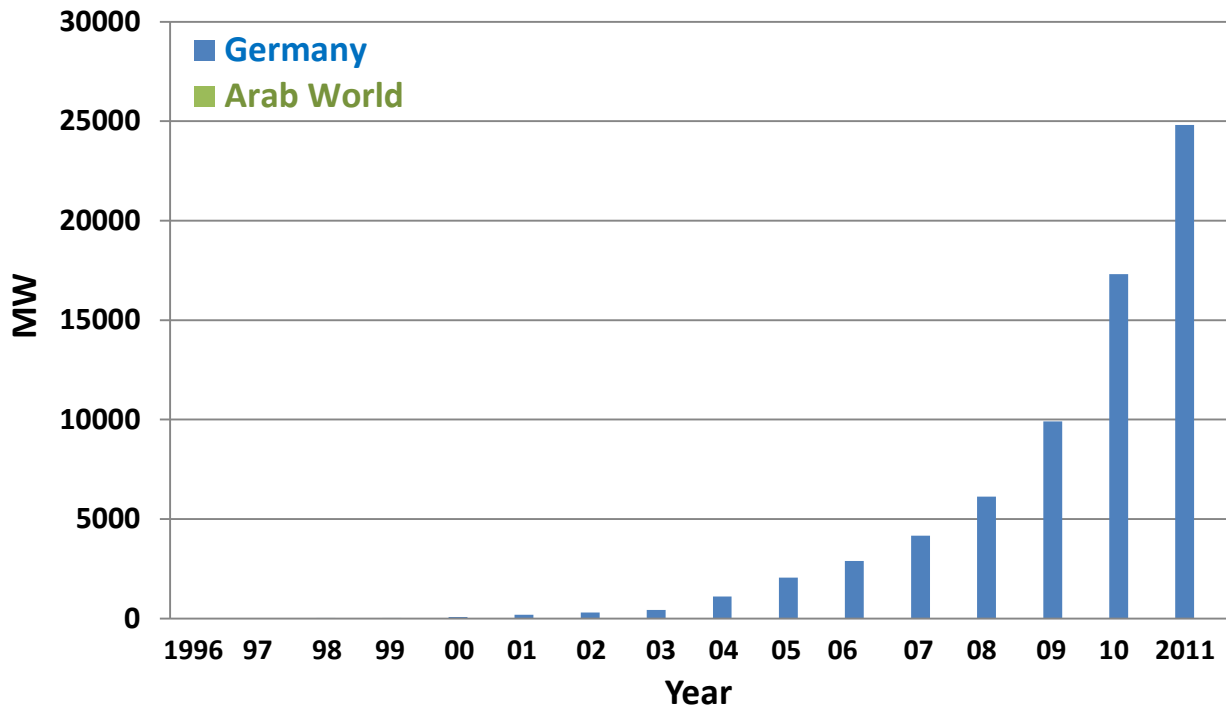


Fig. (3) Solar Energy- PV installed power in Germany and the Arab world

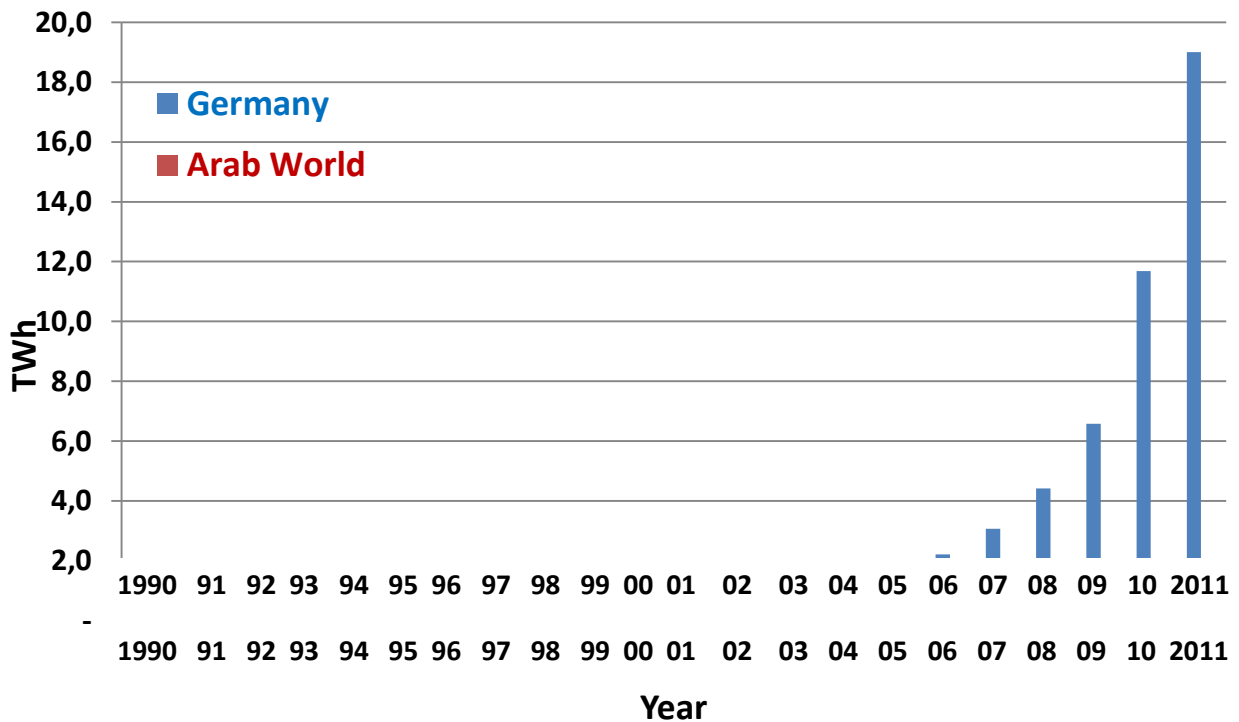


Fig. (4) Total solar energy utilization per year in Germany and the Arab world

2.2 Wind Energy

In wind exposed parts of the world, wind power has become one of the most attractive sources of renewable energy. Wind power has its greatest potential where average wind speeds are relatively strong

and consistent in direction, which is the case in many some regions in the world, as presented in Archer and Jacobson (2005) and shown in Fig. (5). The use of wind power for electricity has been growing at a rapid rate for the last decades in Germany and the Arab world as shown in Fig. (6). However, as the potential for wind energy is great, there are some challenges, as favorable wind resources are concentrated in the sea or remote highlands. Additionally, the yearly energy generated from wind in the Arab world and Germany is shown in Fig. (7).

The largest problem with wind energy is the intermittency. This affects the system at many levels: short-term wind fluctuations, hourly or daily variations, and week-to-week and seasonal variations. This variability necessitates the addition of reserve capacity other than wind that can be tapped when the wind falls below the forecasted level over a period of hours or days.

It can be read from Figures 6 and 7 that in 2011 the installed wind turbine capacity in Germany is grown to around 29, 000 MW and the total electric energy from wind power is at 46.5 TWh/year. While, in the Arab world the installed wind turbine capacity in 2011 is just 1,134 MW (4% of the German level) and the generated energy is 2.31 TWh (5%). Thus, also concerning wind energy, these numbers clearly indicate the need for further policies and strategies for utilization of this available natural medium and low wind energy resource, for example in hybrid PV solar wind systems, with technologies adapted to the environmental conditions in Arab world environments.

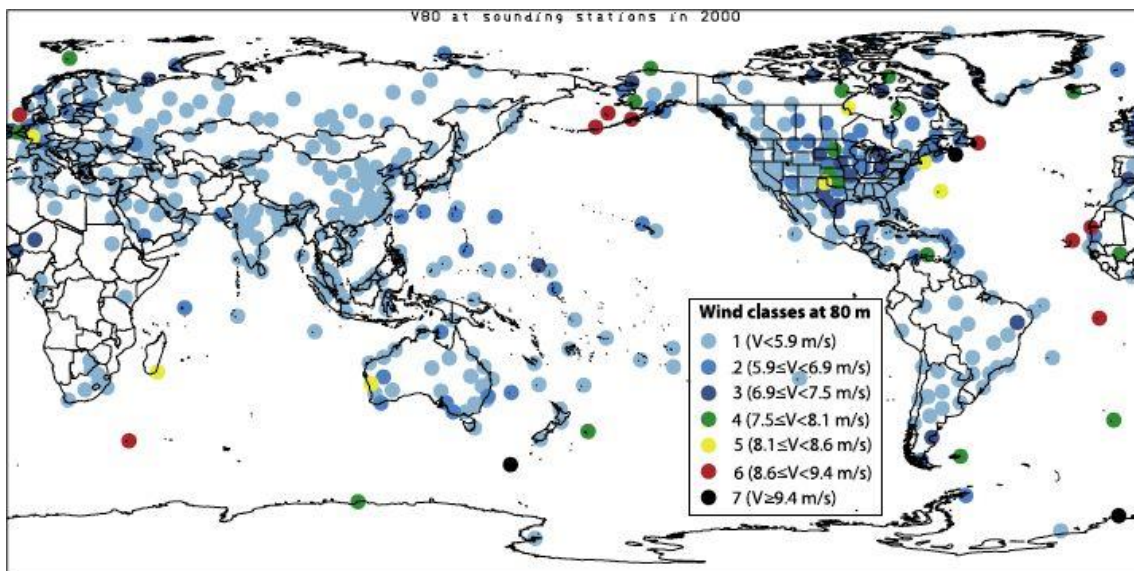


Fig. (5) Wind energy potential in the world-Source Archer and Jacobson (2005)

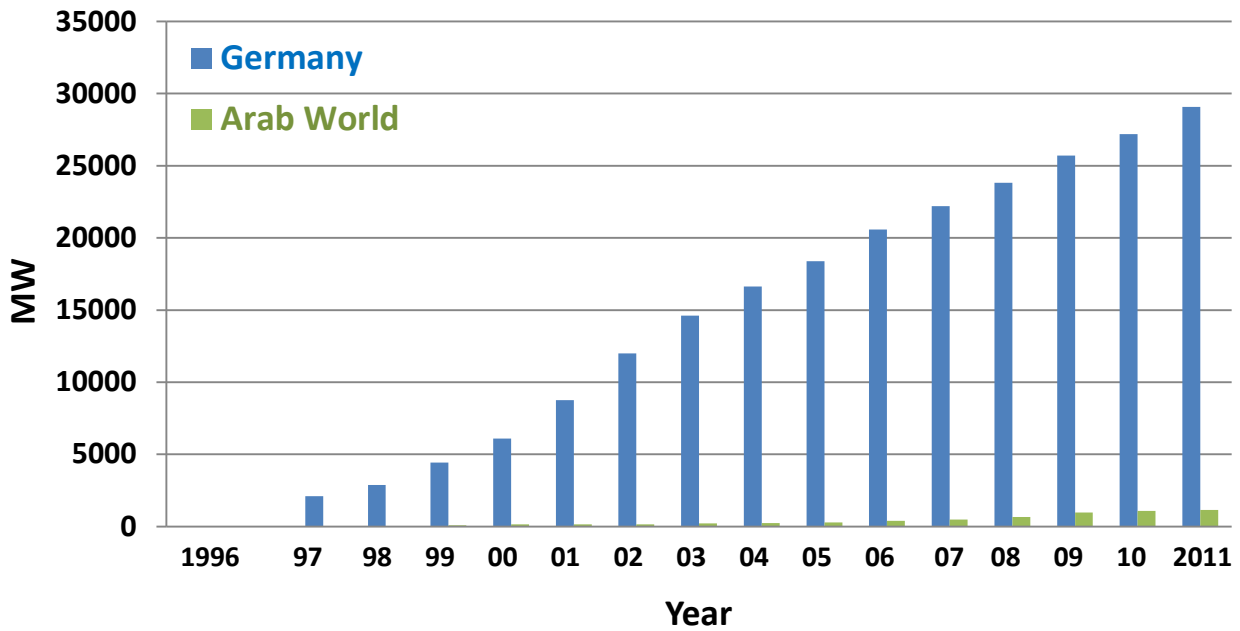


Fig. (6) Time history of the cumulative installed wind turbine capacity

2.3 Hydropower

Hydropower is the renewable energy source, at which in most locations, water is stored behind dams and is released to turn turbines that generate electricity. However, as hydropower is a very traditional source, its potential is used to a large amount, in the Arab world and Germany. Although Fig. 8 might indicate other possible increases, the environmental impact of further and larger artificial lake projects is quite severe. That is why there is just a slight increase in hydroelectricity production in Germany and the Arab world since long time, as can be seen in Fig (9). The trends show that in 2011 the total hydroelectricity production in Germany is around 19.5 TWh/year, while in the Arab world it stagnates at 11.1 TWh, respectively. However, due to the arid climate and the singularity of the river Nile it seems that resources for hydropower in the Arab world are quite limited.

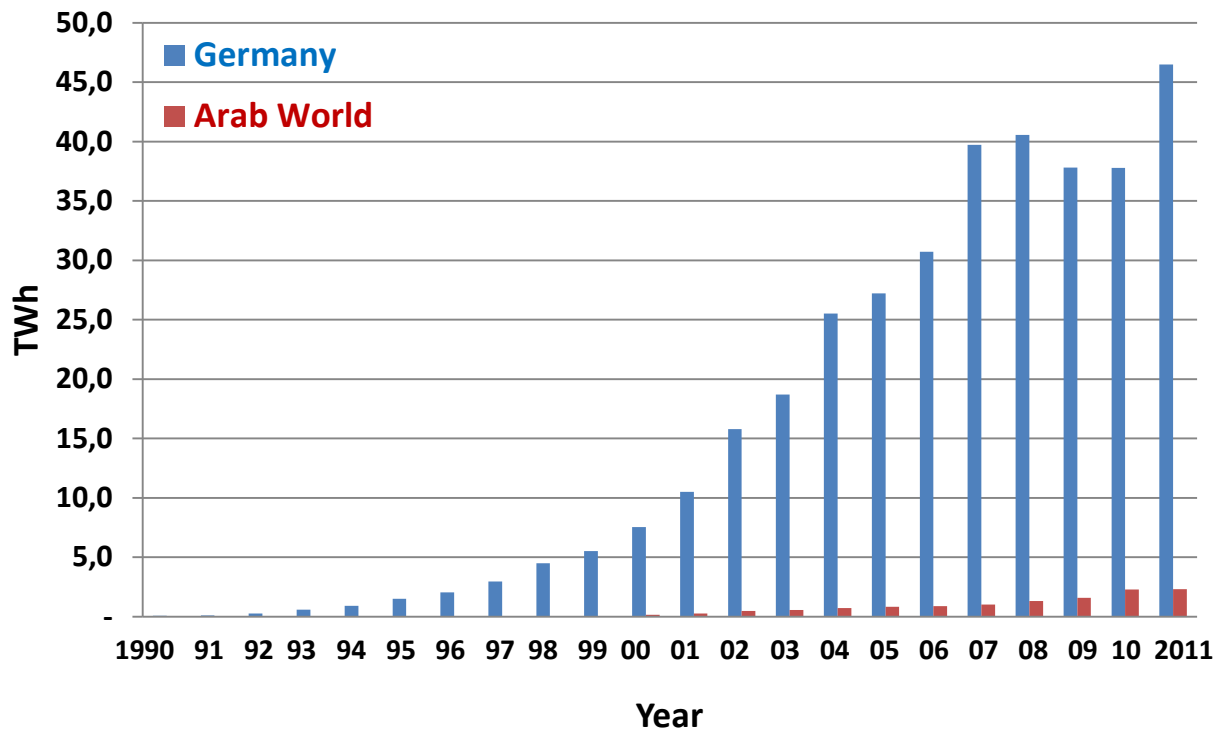


Fig. (7) Time history of the Wind Energy Consumption in Germany and Arab world

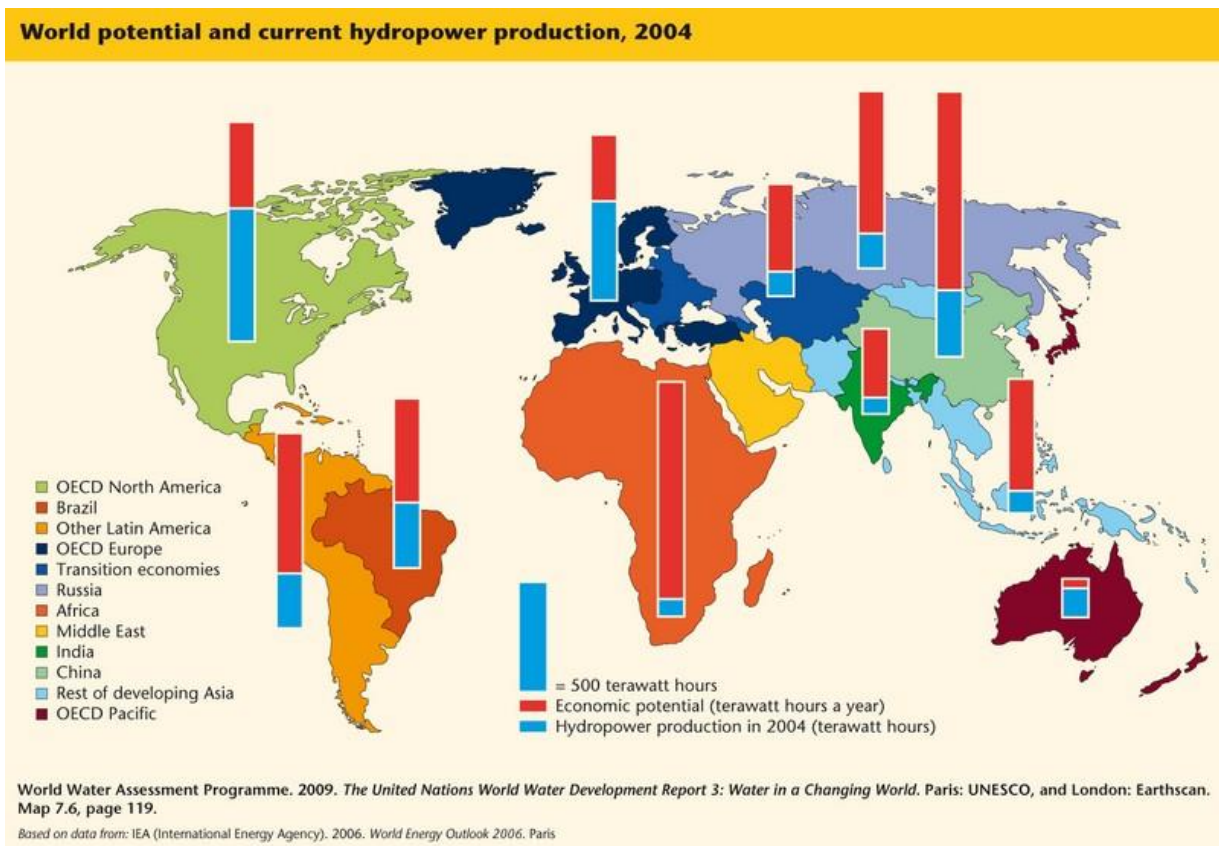


Fig. (8) World potential and current hydropower production in the world (source-
http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/images/img_wwap_wcdr3_map_7.6_hydropower.jpg)

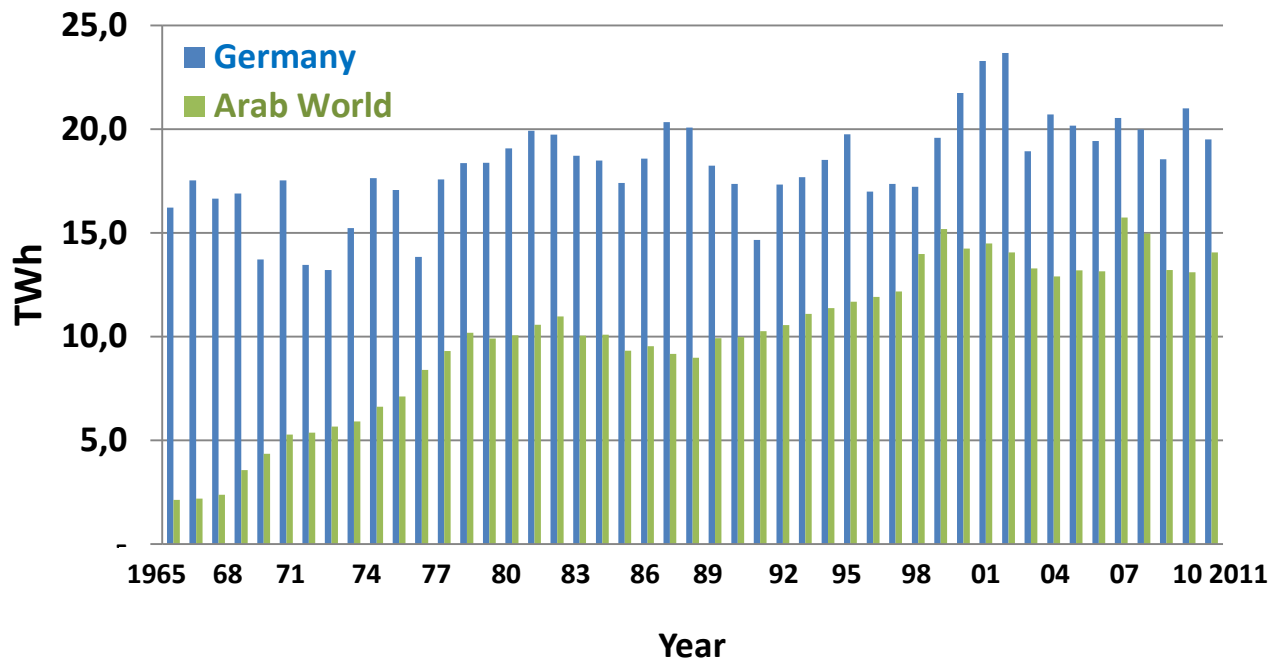


Fig. (9) Time history of the hydroelectricity consumption in Germany and Arab world

2.4 Geothermal Energy

Geothermal heat originates at the earth's core. It is an attractive renewable resource and one of the cleanest sources of energy. Little land is required, and there is much less physical damage to the environment. In geologically active zones worldwide, where underground steam produces hot springs or geysers, high temperature geothermal energy can be directly used for electricity generation, as shown in Fig. (10). But not many places in the world are situated in locations where hydrothermal reservoirs are close enough to the surface of the earth to be used effectively at valuable temperatures. At lower temperatures geothermal energy is increasingly used for space heating, but often requiring electric driven heat pumps to increase the temperature level.

From the figure, it is clear that there is no significant geothermal resource in the Arab world, which is clearly reflected on the installed capacity shown in Fig. (11). From the latter it can be seen that the accumulated installed geothermal capacity in Germany in 2011 is 7.5 MW.

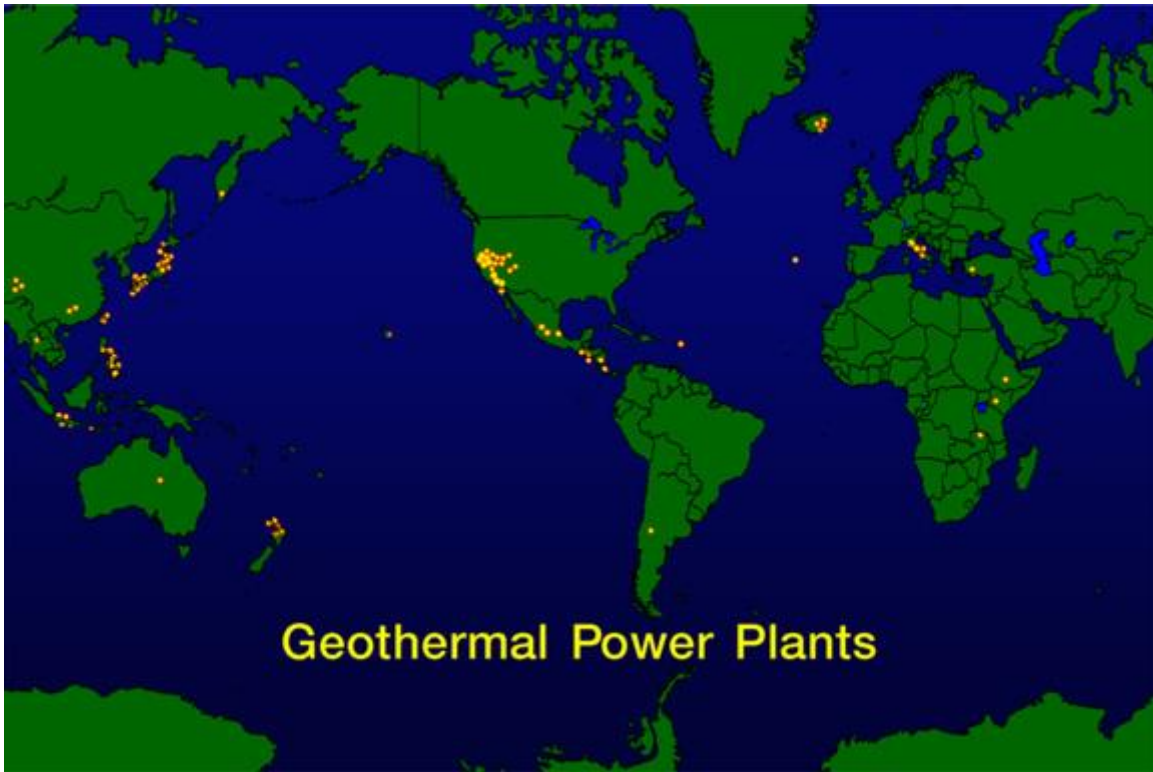


Fig. (10) Locations worldwide location for steam producing that could be used for electric generation.

Sources- <http://geothermal.marin.org/geopresentation/sld069.htm>

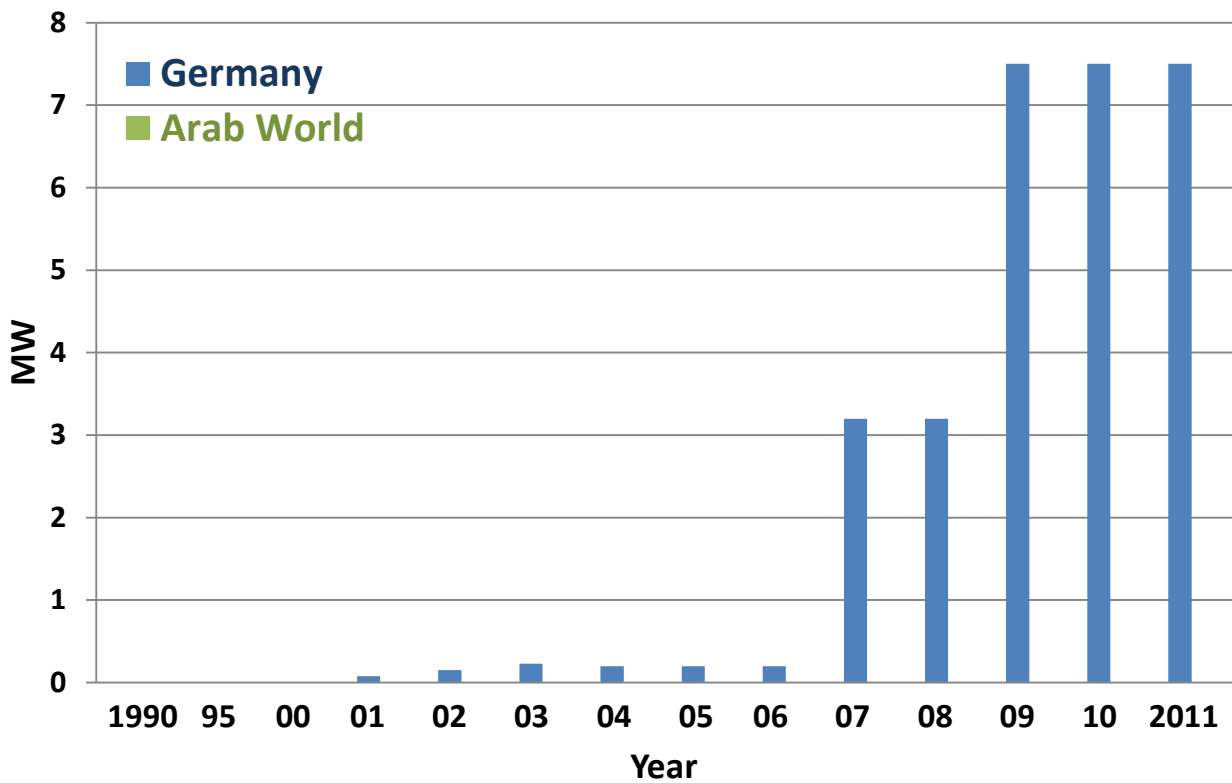


Fig. (11) Trend of installed geothermal capacity in Germany

2.5 Biomass

Among the relevant renewables, the term biomass is used to describe a wide variety of renewable plant materials that can be converted to provide various sources of energy. Biomass is the organic matter in trees, agricultural crops and other living plant material. It is a true renewable energy source as the growth of plants and trees replenish the supply. Strongly growing is the market of pressed and dried pellets and briquettes, to turn biomass into a durable form for handling, trade and energetic use. The world map of biomass energy resources is shown in Fig. (12). From the figure, it can be seen that there are biomass resources in the Arab world while there is no effective and recorded utilization of such resources. The most common form of biomass conversion to energy is through direct combustion. However, there is controversy surrounding the transformation of biomass into energy. Figure (13) shows the strong growth of biomass energy utilization in Germany, as reported in Zahlen und Fakten Energiedaten (2012). For Germany the total energy consumed from biomass is around 276.000 TWh/year in 2011, while there is no record for the Arab world of biomass energy utilization. For the future technical innovations in efficient and economic utilization of biomass resources should be initiated. According to the actual state of the art in Germany most effective, but adapted technologies should be implemented to meet the need of each of 22 Arab states.

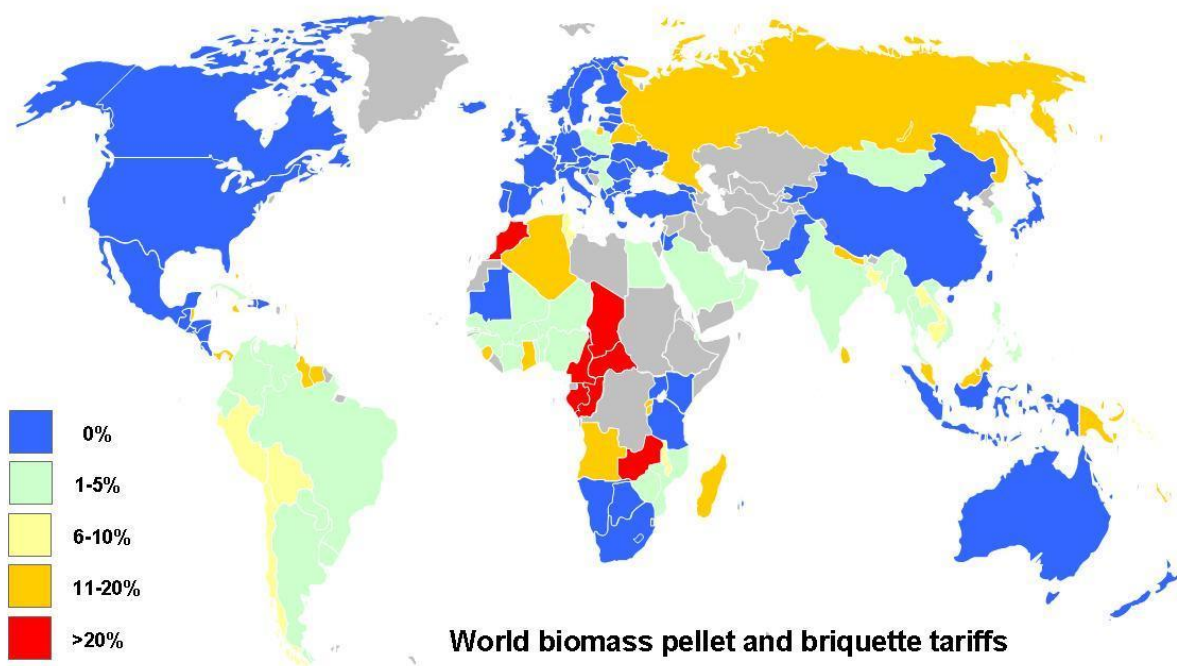


Fig. (12) The world biomass pellet. Source -<http://www.biomass-energy.org/2011/08/map-biomass-pellet-and-briquette-tariffs/>

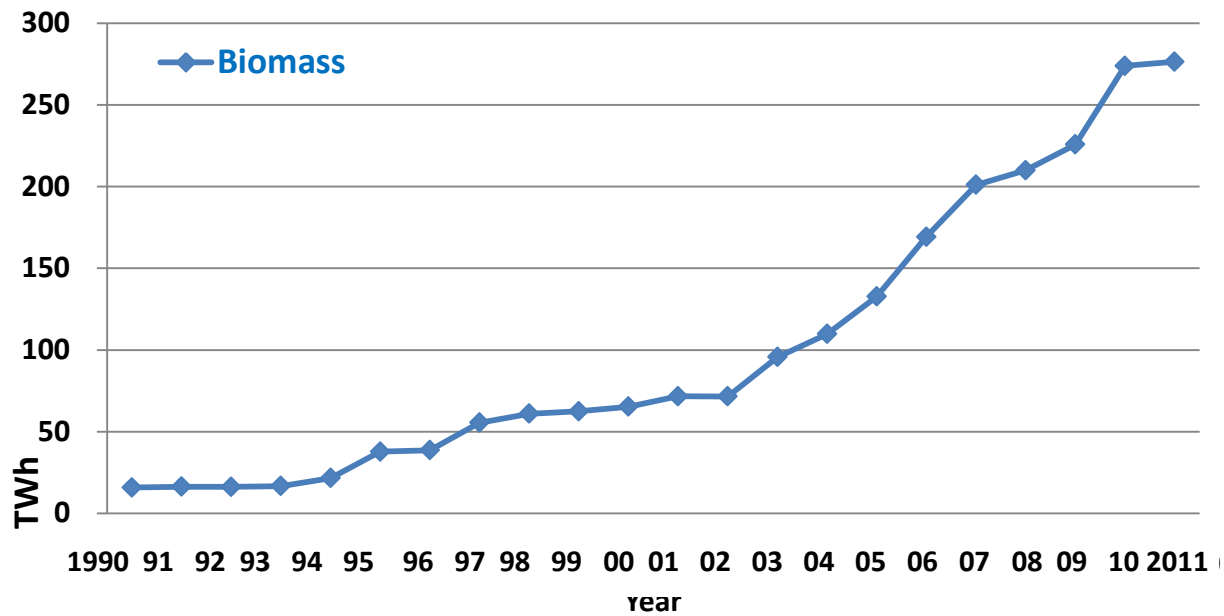


Fig. (13) Time history of utilization of biomass energy utilization in Germany

2.6 Renewable energy sources consumption (wind, geothermal, solar, biomass and waste)

The comparison of the total energy consumption from renewable resources (wind, geothermal, solar, biomass and waste) in Arab world and Germany is shown Fig. (14). For Germany the accumulated details of each kind, as reported in Zahlen und Fakten Energiedaten (2012), and the total utilization are shown Figs. (15) and (16). From Fig. (14) it is evident that in 2011 the total energy consumption from renewable resources in Arab world (1.5 TWh) is around 1.5% of the German number (102 TWh). As reported before, in general the Arab world uses just a very small amount of renewable resources, compared to Germany. This may be due to many facts like missing policies and strategies of renewable energy utilization in the Arab world and/or lacking or no technologies, being suitable for energy transformation into useful forms.

In order to save valuable fossil energy resources, which are not equally distributed in all countries of the Arab world, more use should be made of the locally available renewable resources. A scientific, technical and economical cooperation with Germany, up to mega scale projects, could offer a large energy potential in the future.

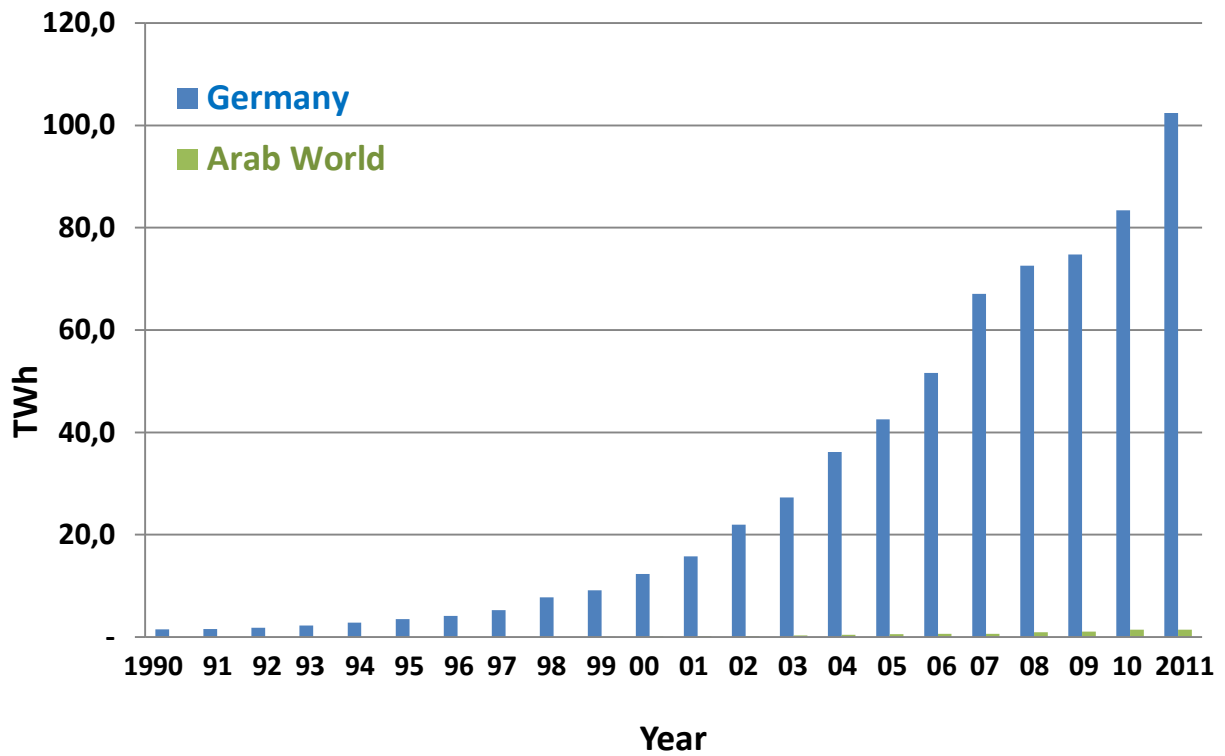


Fig. (14) Comparison of the total energy consumption from renewable resources in the Arab world and Germany

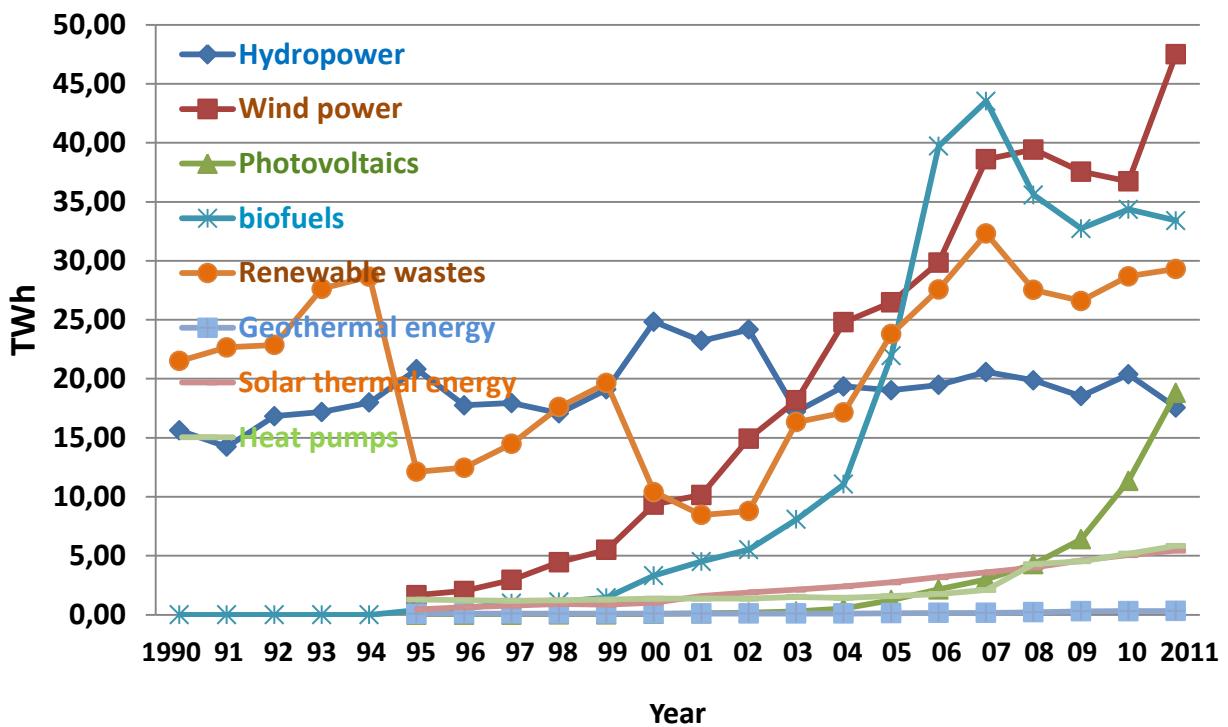


Fig. (15) Time history of the accumulated details of all renewables sources consumption in Germany, Germany as reported in Zahlen und Fakten Energiedaten (2012)

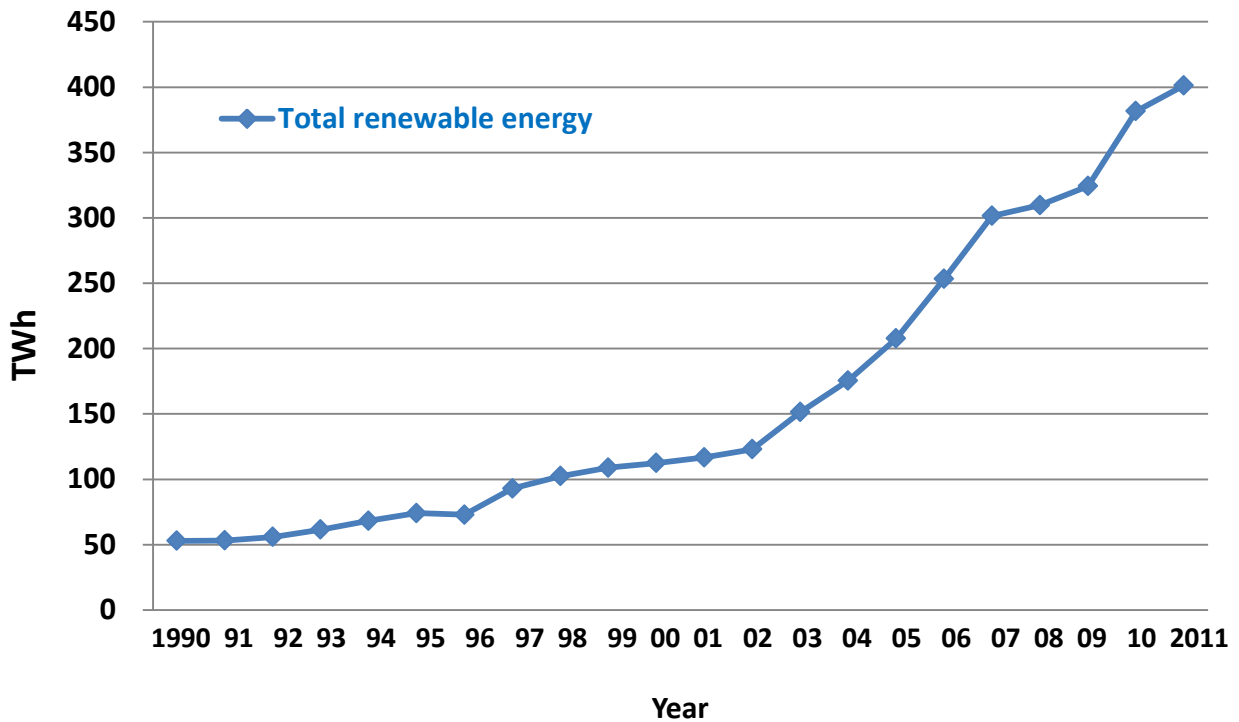


Fig. (16) Time history of the accumulated of the total renewables sources consumption in Germany, Germany as reported in Zahlen und Fakten Energiedaten (2012)

3. Conclusion and Recommendations

This study investigated the recent statuses of renewable energy sources (RES) and their utilization in the Arab world and compared to Germany. The comparison was made for solar, wind, hydropower, geothermal and biomass energy. From the presented data the following can be concluded:

- Although the total area of the Arab world with 13,164,000 km² is roughly 37 times larger than the size of Germany and the mean solar radiation is 2.4 times higher, the total utilization of solar electric PV energy of 0.087 TWh/year is just 0,5 % of PV energy in Germany (19 TWh/year). While, in Germany the installed PV Power capacity has reached 24,820 MW (2011) there is even no statistical data available for the Arab world. These numbers clearly indicate the need for further policies and strategies for utilization of solar energy as an available natural resource, with technologies meeting the environmental conditions in the hot arid and dusty environments of the Arab world.
- As well the installed wind turbine capacity of 2011 in Germany is around 30,000 MW and 46.5 TWh_{el}/year are generated from wind energy. In contrast, in the Arab world the installed wind turbine capacity of 1,100 MW is at 4%, while the generated electricity is at 5% (2,31 TWh) of the German values. These numbers clearly indicate the need for further policies and strategies for utilization of this available natural medium and low wind energy resource for

example in hybrid PV solar wind systems with technologies meet the environmental conditions in Arab world environments

- There is no sufficient information on biomass energy utilization in the Arab world. Any form of technical cooperation in efficient and economic utilization of the biomass resources with Germany is recommended for the future in order to start from the end point technology available in Germany to meet need of each of 22 Arab states
- The total accumulated utilization of renewable resources in the year 2011 in the Arab world is estimated to 1.5 TWh while in Germany it is around 102 TWh. That clearly shows that the share of Renewables consumption in the Arab world is very small compared to Germany. This may be due to many facts like lack of policies and strategies of renewable energy utilization in the Arab world, lack of suitable technologies for energy transformation into useful forms.
- In future a scientific, technical and economical cooperation with Germany, including pilot to mega scale projects, could develop a large RES potential in the Arab world.

The following can be recommended for this study output:

- Win-Win form of Arab-German cooperation in the field of efficient utilization of RES is needed to be agreed and implemented.

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DIETMAR GOLTSCHNIGG

Universität Graz, Österreich

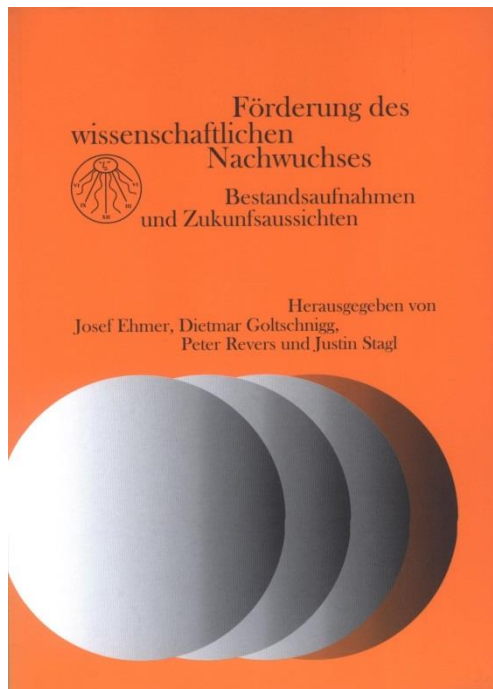
Aktivitäten des Österreichischer Klubs der Freunde der Alexander von Humboldt-Stiftung an Schnitt- und Kreuzungspunkten zwischen Europa, Afrika und Asien

Der Österreichische Humboldt-Klub hat bisher eine Reihe von Kongressen durchgeführt, darunter vier Humboldt-Kollegs, die alle in Buchpublikationen mit Beiträgen dokumentiert sind, die auch für das Rahmenthema des gegenwärtigen, hier in Venedig stattfindenden Humboldt-Kollegs im Hinblick auf Schnitt- und Kreuzungspunkte zwischen Europa, Afrika und Asien von Interesse sind.

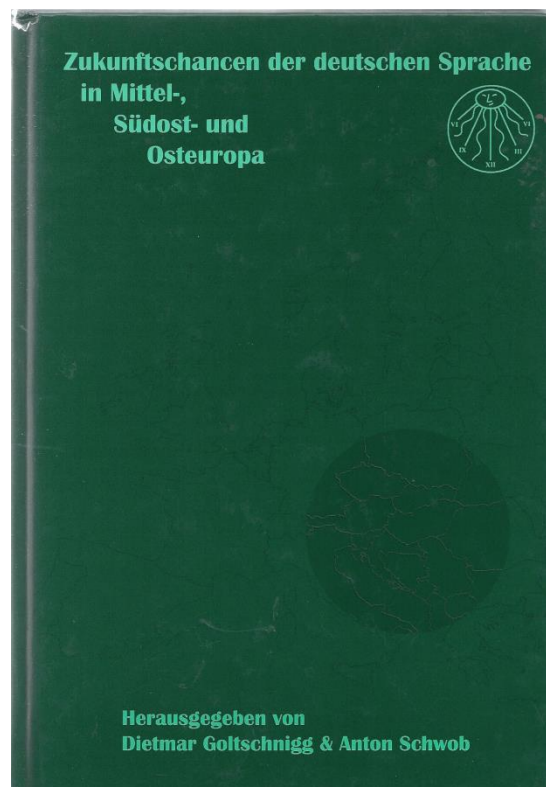
Kulturen der Tierhaltung (1999, Graz)



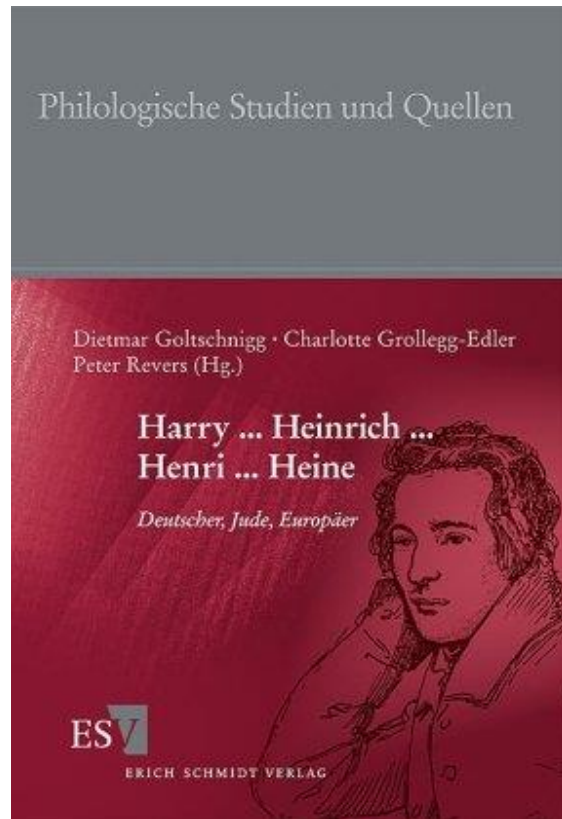
Förderung des wissenschaftlichen Nachwuchses – Bestandsaufnahmen und Zukunftsaussichten
(2002, Salzburg)



Zukunftschancen der deutschen Sprache (2004, Humboldt-Kolleg Graz)



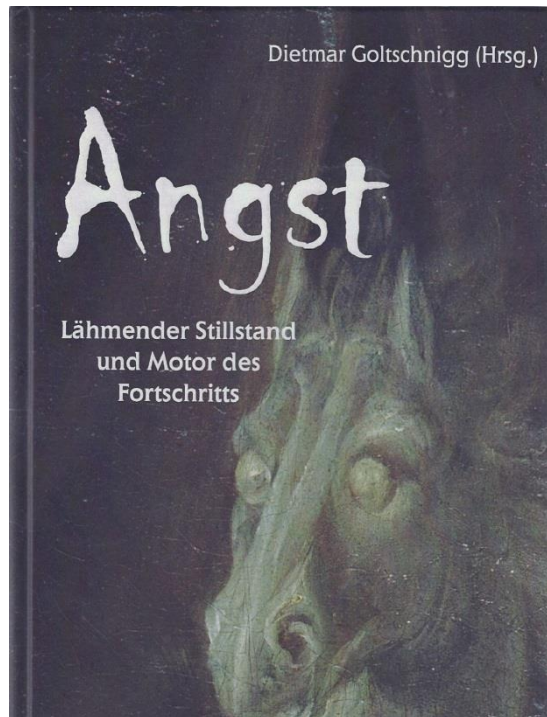
Harry ... Heinrich ... Henri ... Heine – Deutscher, Jude, Europäer (2006, Humboldt-Kolleg Graz)



Phänomen Zeit. Dimensionen und Strukturen in Kultur und Wissenschaft (2009, Prolog Wien, Humboldt-Kolleg Graz)



Angst – Lähmender Stillstand und Motor des Fortschritts (2011, Prolog Wien, Humboldt-Kolleg Graz)



Plagiat, Fälschung, Urheberrecht im interdisziplinären Blickfeld (2012, Graz)



*

Der Kongress über Kulturen der Tierhaltung unter dem von dem tierliebenden Mohammed abgeleiteten Titelzitat „*Die Katze des Propheten*“ brachte Beiträge zur Bedeutung und Stellung des Tiers im Islam, im Judentum und Christentum, im Buddhismus und Hinduismus, in der Rechtsphilosophie und im Internationalen Recht, insbesondere auch was Handels- und Transportwesen, Tierschutz und Tierversuche anbelangt.

Die deutsche Sprache und das Germanistikstudium sind international leider unaufhaltsam im Rückzug begriffen. Ausnahmen gibt es jedoch in Mittel-, Ost- und Südosteuropa, in Zentralafrika (Togo) sowie neuerdings in China, hier vor allem auch dank der prosperierenden wirtschaftlichen Kooperation mit Deutschland. Es ist kein Zufall, dass der derzeitige Präsident des germanistischen Weltverbands, Jianhua Zhu, ein angesehener Humboldtianer, aus Shanghai stammt. Die engen Wirtschaftsbeziehungen zwischen China und Deutschland könnten nach Auffassung vieler Experten und Politiker die Basis für einen politischen, wissenschaftlichen und kulturellen Dialog Chinas mit ganz Europa bilden. Der neue chinesische Premierminister Li Keqiang erklärte anlässlich seines Besuchs in Berlin im Mai 2013:

Die chinesisch-deutsche Zusammenarbeit ist zur Lokomotive für die chinesisch-europäische Zusammenarbeit geworden [...]. Ein europäisches Deutschland und ein asiatisches China gehen Hand in Hand voran. Davon profitieren nicht nur die Bevölkerungen beider Länder, sondern davon profitiert auch der Rest der Welt. [...]. Als entschlossener Unterstützer der europäischen Integration ist China überzeugt, dass Europa eine bedeutende Kraft zur Wahrung von Frieden und Stabilität in der Welt ist. (Die ZEIT, 23. Mai 2013).

China dürfte mittlerweile, was die Anzahl der Humboldtianerinnen und Humboldtianer anbelangt, weltweit an vorderster Stelle stehen.

Doch verdienen in diesem Zusammenhang nicht nur riesige Länder wie China mit einer Bevölkerungszahl von 1,3 Milliarden Einwohnern Beachtung, sondern auch kleine und kleinste Länder wie das zentralafrikanische Togo. In der Hauptstadt Lomé, wo sich eine Deutsche Botschaft und ein eigenes Goethe-Institut befinden, gibt es heute vierhundert Germanistik-Studenten, die meist schon an den Gymnasien Deutsch gelernt haben. Dieser für die Vermittlung der deutschen Sprache und Kultur erfreuliche Befund ist nicht zuletzt auch einem überaus aktiven wie prominenten Germanistik-Professor und Humboldt-Preisträger an der Universität Lomé namens Adjai Paulin Oloukpona-Yinnon zu verdanken.

An den beiden Grazer Humboldt-Kollegs über die komplexen existentiellen Phänomene wie ZEIT und ANGST nahmen Humboldtianerinnen und Humboldtianer aus allen fünf Kontinenten teil. Sie vertraten unterschiedlichste Fachrichtungen der Kultur- und Naturwissenschaften, der Rechts- und Sozial-, der

Wirtschafts- und Ingenieurwissenschaften. Es wurde deutlich, dass ZEIT und ANGST, je nach wissenschaftlicher Perspektive sowie geo- und ethnographischer Herkunft, ob aus Japan, Indien, China, Korea, Australien, Neuseeland, Togo, Israel, Türkei oder zahlreichen europäischen Ländern, vergleichbare, aber oft auch sehr divergierende Bedeutungen und Stellenwerte haben.

Humboldt-Kollegs sind besonders prädestiniert für einen interdisziplinären und interkulturellen Gedankenaustausch und Perspektivenwechsel an den verschiedensten Schnitt- und Kreuzungspunkten zwischen Europa, Asien und Afrika. Im Zeichen Alexander von Humboldts lassen sich viele neue Erkenntnisse gewinnen, die für die gegenwärtigen und zukünftigen interkontinentalen Entwicklungen, Herausforderungen und Kooperationsmöglichkeiten von herausragender Bedeutung sind.

Conclusions

This kolleg had the objective to strengthen the Humboldt network especially among Mediterranean countries. The topic was therefore selected in order to cover various aspects of possible collaborations and synergies in particular stimulating the participation of researchers from Egypt and Tunisia. Particular attention was paid to the involvement of junior scientists and the representative of junior Arab researchers was invited to join the works.

The participation was relatively large, with a total of 81 participants, 42 Humboldtians, 24 Jung researchers from several Italian Universities and 12 other researchers mainly representing national and international research institutions. Researcher from Austria, Cina, Egypt, Germany, India, Jordan, Macedonia, Morocco, Sweden and Tunisia were also present. The representatives of several Humboldt alumni associations in particular from the Mediterranean countries were also invited to join the activities.

We had three days of lectures and discussions starting the 30th of may 2013.

The programme, after few introductory words from the Dine of the Venice International University, the German Ambassador in Rome, the general secretary of Villa Vigoni, the representative of DAAD, the president of the Italian Alexander von Humboldt association and myself, was composed of a session on Multiculturalism and Migration, one on the Mediterranean Innovation and Research Area, one on the Mediterranean Area of Higher Education and one on the Energy and Sustainable Development. Directors of national (Istituto Nazionale di Fisica Nucleare, Centro Nazionale Ricerche, Italy) and international (IDS, Mannheim Germany, CNRS and CEA – France, GSI Darmstadt Germany etc.) institutions presented the different research initiatives involving emergent Mediterranean countries (MENA region) which are now starting or going on. A satellite meeting concerning the development of an African network for wind energy was also organized.

The Kolleg was then concluded with a round table discussion on the different topics emerged in the different sessions. Contributions were presented by the Humboldt Ambassadors or Presidents of the different Humboldt alumni associations, especially from Mediterranean countries.

Giacomo de Angelis

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Printed in Padova March 2015