

The Role of the University in Our Time:
The Legacy of Joseph Ben-David as a Guideline for Today's
Challenges

Conference at the Centro Stefano Franscini of the ETH Zürich
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Abstracts of Papers

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Ratings and Knowledge

Andrew Abbott (University of Chicago)

This paper will focus on the rise of accountability and rating schemes in the sciences and other academic fields. The paper will review the history and development of these schemes with an eye to theorizing their relation to the various forms of public knowledge evolution, particularly in universities. Empirical issues addressed will be the forces behind the rise of the schemes, the relative invisibility of these schemes in the sociology of science literature, and the relation of ratings to the pace of knowledge innovation. I hope to emerge with a new theory of the criteria for knowledge development.

Serving the K-12 School System: The University as a Center of Innovation and a Source of Conformity

Michael Ben-Chaim (independent scholar)

The contemporary university aspires to be a regional, national, and global center of intellectual growth and cultural innovation. The university assumes, in addition, a prominent role in training personnel and preparing pedagogical materials and programs for the K-12 system of public and private schools. It may seem reasonable to expect that the university, as a center of cultural innovation, will play a leadership role in the K-12 educational system. Based primarily on my studies of science education in high schools in Connecticut, USA, and a private high school for children with learning disabilities in Massachusetts, USA, I show, however, that the university does not meet this expectation. The university exercises cultural (though not legal) authority over the K-12 school system but fails to adequately lead it. The university's reputation for innovation is in practice used to establish norms of knowledge and of skills that enforce conformity on K-12 teachers and students alike. My paper aims to explain how these norms are instituted and to describe their impact in the classroom, as well as to propose how the university may assume a more vital role in cultivating leadership in the realm of formal education.

Dominance Relations and Citation Classes: A ranking exercise on French Universities

Nicolas Carayol (Université de Bordeaux)

This paper proposes a theory for establishing dominance relations between universities on the basis of their scientific production and the number of citations their publications received in given time window. We apply this theory to rank and to set reference classes of French Universities.

Two Chapters of Ben-David

William Clark (University of California, Los Angeles and San Diego)

The final two chapters of Ben-David's *The Scientist's Role in Society* (1984; 1971) concern the United States in the 19th and 20th centuries, and a conclusion for the whole study. A number of interesting concepts and theses run through the chapters. Of these, I shall look at: the importance of the academic department at American universities (as opposed to the German); the relative decentralization of research in America (as opposed to France and Germany); the willingness of American academics to mix utilitarian, economic interests with the pursuit of pure research (as opposed to in France and Germany); and, the "success" of the American system in view of all that. In the further context of reflections on academic freedom, I'll consider the extent to which Ben-David's theses hold in the late Cold War and early Post-Cold War. I plan — emphasize "plan" — to pay particular attention to the rise of the Centers in American academia, the specter of the Pentagon in American academia, and the advent of academic Big Business in the US.

Western-Style Organization and Strategic Change of Public Research Body: New Direction in Turbulent Scenarios

Mario Coccia (CERIS-CNR and Max Planck Institute of Economics)

The current debate on public sector research in modern economies focuses on a system of innovation made up of an efficient and efficacious research body capable of producing scientific research and inventions, both of which are necessary to support innovation and, consequently, economic growth of European countries. In addition, the turbulent economic scenarios have led several governments to restructure public research units and universities, which have changed their

organizational and strategic behavior. This paper analyzes the new organizational behavior of public research bodies that is now based on a strategic change focused on market-oriented institutions. In particular, the Western-style organization of public research bodies, focused on applied research and consultancy rather than on basic research, is due to cope with the consequential political environment (e.g. low public funding) and the turbulent economic context. Because of this worldwide tendency there is a danger within public research organizations of reduced discovery-based research for longer term needs and public welfare which also affects, negatively, the competitiveness of modern economies. Such criticism, which is rather widespread in Europe, has been generating a fierce political and scientific debate as well as controversial — and not always satisfactory — solutions.

The World of Media, and the World of Learning

Roger de Weck (independent journalist)

Comment: the abstract is forthcoming.

Title and Abstract: TBA

Yaron Ezrahi (Hebrew University Jerusalem)

Curriculum Reform in Context: Some Preliminary Suggestions

Rivka Feldhay (Tel-Aviv University)

My point of departure for this short intervention is the assumption — supported by my research of curricular reforms of the past — that such reforms have always entailed violent social struggles around them. In this context, one should remember that the curriculum embodies not only an organization of bodies of knowledge, nor just consensus around a normative system, but first and foremost the victory of one position over others in a broad and varied cultural field that has characterized modernity since the 17th century. In the second half of the 17th century it became clear that the scientific field — in contradistinction, perhaps, to the religious or æsthetic fields of that time — constituted itself around the principle of autonomy that became an Archimedean point of its organization. The principle of autonomy meant that the monopoly over truth and its representation was invested in a small group

of leaders that had gathered enough symbolic power to institute new rules of the intellectual game: rules for the selection of phenomena judged proper for scientific investigation, for instilling the proper scientific “habitus”, for negotiating the boundaries between disciplines and their hierarchy, and for conferring legitimization over the products of research. A hierarchical system of disciplines developed within that field, characterized by fierce competition and constant struggle among those capable of entering the field and creating a position within it for themselves. However, the field always managed to reproduce itself around the same common principles.

It seems, though, that in a globalized world the reproduction of the scientific field is endangered. Globalization here refers to the state of late capitalism that since the 1980’s connected to the new possibilities that offered themselves through new information technologies. The well known result has been expressed in a global structural change that has affected the scientific field, no less that it has affected the religious or political one. The new globalized world gave birth to new types of structures: that is, waves of information, money and people have been loosely organized not in the forms of a structure with closure, but in the form of multi-nodal networks. Such organization enables the waves of information, money and people to circulate and erase by its movement the old structures, parting from individual identities and reaching the eroded sovereignty of nation states. Under such conditions, no wonder that the existing system of higher education feels threatened and may be really threatened. A growing sense of inequality of opportunities prevails and individuals experience instability and insecurity.

This is the background which I deem relevant for discussing the following points:

- The threat to the principle of autonomy.
- The need for diversification of higher education institutions: a) Colleges for training in a profession for groups who are uninterested or even deliberately refuse liberal education (one example is education for ultra-orthodox Jews in Israel); b) Liberal arts/teachers’ colleges; c) Academic colleges; d) Research universities. Here, I shall

concentrate on the criteria for distinguishing between those institutions and their different curricular needs.

- The special needs of research universities, including disciplinary, interdisciplinary and general education. Here I will suggest options for two different kinds of institutional organization to fulfill all these needs
- The need for local councils of higher education. Civil-political education, including the knowledge of alien cultures. The role of the teacher-researcher. Elites in a global world

The Mission of the Collegium Helveticum

Gerd Folkers and Elvan Kut (ETH Zürich)

The Collegium Helveticum may serve as a model for establishing (again) a scientific culture, whose aim is to do research on topics of highest complexity, and where solutions are usually not provided within one discipline. Being a forum of dialogue between the sciences, the Collegium Helveticum was founded by the ETH Zürich in 1997 with the objective to promote a more in-depth discourse of natural and technical sciences with humanities and social sciences. Interdisciplinary and transdisciplinary dialogue, and the exchange of ideas among natural and technical sciences, the humanities, and the arts and medical sciences are still core and vision of the Collegium.

The Collegium Helveticum perceives transdisciplinarity as an indispensable element of its research projects. These projects are carried out with cooperation of the University of Zurich and the ETH Zürich as well as other academies, research institutes or industry partners, under the direction of the Collegium. Within the interdisciplinary and transdisciplinary research, the Collegium pursues a pragmatic approach based on cooperation, communication and coordination. Disciplinary competence has thereby always been a prerequisite. The Collegium Helveticum, as a research institute, is committed to a bottom-up-approach. Together with interested scientists (fellows) and invited institutions which are endowed with complex questions that are in need of interdisciplinary approaches, one or several joint research projects are designed combining several fields.

Higher Education in France: A Participant Observer's Experience

Gad Freudenthal (CNRS, Paris)

Comment: Gad Freudenthal cannot attend the conference (the abstract is meant as a contribution for the planned anthology).

My paper will not be scholarly. I will rather recount the French higher education system as I see and experience it. This perception is however informed by (i) my having studied with Joseph Ben-David and having been influenced by his sociological outlook; and (ii) my first-hand (albeit limited) familiarity with the Israeli (and to some extent North-American) system of higher education.

The French higher education system can be described as Ben-David's dystopia. One part of it — the *grandes écoles* — recruits by a very selective concours, which however applies standardized criteria, creating highly competent but “normalized” graduates and to some extent discourages original thought; it also results in a social reproduction of the elites (Bourdieu). The teaching itself, as also the system of *agrégation*, similarly favors conformism. The other part, the university system, admits anyone with a *baccalauréat*. Students are not free to select their university, thwarting a competition between universities over the best students (who usually anyway endeavor to enter a *grande école* and not a university). All universities (except business schools) are state-governed, and tuition fee, fixed by the government, is very low. Recruitment of faculty is by a state concours: although not anymore entirely centralized, does not result in a competition between universities over the best academics; nor can one university offer better conditions than another. In today's mass university, staff are overburdened with teaching and administrative tasks. In the resulting social system research is often neglected.

On top of this there is the traditional opposition *Administration* (= management) vs. *Administrés* (= staff). The absence of a continuous dialogue and consensus (characteristic of all of French society) is reflected in the existence of syndicates of faculty and other staff, whose role is to defend staff “interests” and which have come to play an important role in controlling the university (including recruitment). The general ambiance

is often of confrontation, leading to staff being unmotivated.

At present, timid attempts to reform are undertaken. (1) The universities have been given some autonomy (albeit very limited). The long-term effects of this reform yet remain to be seen. At present it would seem that introducing into the French system new, alien cultural norms (like autonomy and competition) is problematic inasmuch as the new possibilities are (mis-)used by persons who internalized the old rules of the game. (2) The government created an *Agence nationale de la recherche* (ANR), an agency whose role is to fund research projects (as the DFG in Germany, and the NIH and NEH in the USA) has been created. The ANR is aware that serious refereeing has been a rare commodity in France and it prides itself of applying anonymous, objective refereeing. Scientists and their syndicates have feared that the ANR may select for funding only projects with a short-term practical applicability and not fundamental research. Whether or not it this will be the case remains to be seen.

Competition and Quality Orientation in the American, English and German University Systems

Claudius Gellert (Institute for Comparative Educational Research, Munich)

Starting from the thesis of Joseph Ben-David that the paradigmatic character of the German universities in the 19th century was largely determined by the strong competition within that system of higher education, in the paper, firstly, the historical development of the American, English and German universities will be laid out, and secondly, the present-day situation of those models will be accounted for. In the historical overview the functional differences in the university traditions of England and Germany will be analyzed, and consequently the internal differentiation of the American research universities will be explained in relation to those traditions.

Against this background, the above-mentioned thesis of Ben-David will be subjected to a critical evaluation, in particular regarding the validity of his assumption that the presumed competition originated in the decentralization of the German university system. In

the following, the present deficiencies of the German universities, which are frequently explained by the absence of competitive mechanisms, are analyzed in comparison to England and the US and in relation to their historical developments. One of the aspects looked at is the recent government attempt to create “elite universities”, comparable to the American and English examples, through public steering in the course of the so-called “excellence initiative”. It will be argued that this programme is destined to fail, since it does not take into account the overall institutional mechanisms which effectuate the success of those systems.

American University and the Stagnation of Knowledge

Liah Greenfeld (Boston University)

In his two seminal comparative studies, “The Scientist’s Role in Society”, and “Centers of Learning”, Joseph Ben-David had argued that the structure of the American research university, with its specialized graduate departments in which practicing scholars in a certain area trained the new generations of practicing scholars in that area, was conducive to the rapid advancement of American science and the ascendancy of the US to the place of the center of scientific innovation and the dominant scientific power. In the natural sciences, this position has been maintained in the quarter of the century since Ben-David’s untimely death both in the United States and in Israel — a very small country without the luxurious resources of the US but one that followed the model of the American research university, rather than alternative British, French, German or Russian/Soviet models of science education organization. Therefore, there has been no reason to revise Ben-David’s conclusions in regard to the optimal organization of training and research in the natural sciences.

However, conducting his studies in the 1960s and 1970s, Ben-David, despite certain discouraging signs that he noticed, was still quite optimistic regarding social and behavioral sciences and believed that these conclusions were applicable to them as well. Since then it has become absolutely clear that they did not. None of the social sciences has demonstrated any capacity to develop progressively, i.e., accumulate and advance knowledge in the manner of the natural sciences, instead becoming ever more dogmatic and increasingly

restricting their contact with empirical reality to points of agreement with the prevailing — and changing over time — standards of political correctness.

The thesis of this paper is that the structure of the American research university — specifically, the institution of specialized departments — in no way prevented but in fact enabled this dogmatization and politicization, thus placing specialization at the very root of the stagnation of knowledge in the social and behavioral sciences. The fact that the very same structural arrangement has had directly opposite effects in the natural sciences, on the one hand, and the social and behavioral sciences, on the other, raises questions in regard to the independent role of structural and, more generally, institutional factors in the progressive development of science. Very possibly, as I indeed shall argue, they represent only a condition which becomes conducive to scientific growth only in the presence of certain intellectual conditions.

Collecting and Re-Collecting: The Role of University Collections

Anke te Heesen (Universität Tübingen)

Since the coming into being of universities, collections have played a crucial role for teaching and research. Treasures like silver goblets and golden necklaces for ritual use, natural history specimens and anatomical waxes formed the ceremonial and epistemological frame of these objects. During the centuries, those objects changed their meanings, were exiled or highlighted, abandoned or taken for research. This range of possibilities just changed recently: The digitalization of objects, that is the use of digitalized models rather than three-dimensional ones, led to the emergence of large archives with new types of data on the one hand, and to a complete change of didactic media in the education of students, new perception modes, new social roles within the empire of custodians on the other.

In the last 20 years, historians of science have gained a much better understanding of the role of instruments, models and objects in the practice of science and of the advancement of knowledge. At the same time, objects in *Lehrsammlungen* have received less and less attention. How can we explain this gap? Do we

have to take these objects as historical artifacts, or do they have an important function in universities of our time? In my talk I will address these questions and describe the development of university collections especially in the last ten years.

Jewish Heritage and Modern Science: The Case of the Establishment of the Israeli Research System, and the Perpetuation of its Excellence

Shaul Katz (Hebrew University Jerusalem)

Along the nineteenth century and mainly from its second half onward, the presence of Jewish scientists and scholars in European universities and academic institutes had steadily grown. Many of them, and mainly those who became interwoven into contemporary scientific elites, adhered to the German neo-humanistic ideology, which praised Pure Science as sublime cultural ideal. Some of them became supporters of the idea of a Jewish university, and eventually, during the 1920's affirmed Weizmann's Zionist initiative to establish The Hebrew University of Jerusalem, a research university dedicated to cultivating science for its own sake.

This academic position gained wide Jewish support. It reflected the ideals of the East European *Haskalah* movement, which like many other European social movements, believed in the emancipating force of scientific and technical (technological) knowledge. Concomitantly, many Jewish laymen perceived pure science performed by Jewish scholars and scientists, as a modern incarnation of the Jewish traditional ideal of *Torah Lishmah* (learning Torah for its own sake). Moreover, the vision of pure research, conducted within Jewish national institutions in a future Israel and leading to the participation — as a national collective — in the world's noble enterprise of advancing pure learning, was considered a genuine justification for a Jewish national renaissance.

Consequently, the Israeli academic system grew out of a combination of the efforts of individual researchers, who immigrated to the country and established its first scientific and academic institutes, and of the wide moral and financial support lent to their project gained by the Jewish people.

Formerly part of the European scientific elite, the first generation of Israeli scholars and scientists laid

the foundations to a heritage of idealized pure science, later to be followed by subsequent generations of Israeli researchers. Thus, the prominence of the Israeli research system in a wide array of scientific branches, and its exceptional acclaimed achievements, especially in biochemistry and mathematics, can be traced back to European neo-humanistic ideals of science for its own sake, which were integrated in the Jewish heritage of the nineteenth century, and carried into future Israel since the 1920s and onward.

Innovation in Human Sciences

Dorothee Kimmich (Universität Tübingen)

Innovation is an imperative quality not only in research, but also in economic discussions as well as in politics and in psychology, in techniques of learning and teaching and even in lifestyles and design. But do we know what innovation could mean for literary history, poetology, historical sciences and archaeology? Innovation does not merely denote new evidence or — for example — the discovery of a new site in archaeological field work. It is even more than exploring new methods or theoretical approaches.

Innovation in human sciences is perhaps “disguised” as the manifestation of “turns” in cultural studies: the linguistic turn, the cultural turn, the spatial turn, the material turn etc. But how important is innovation? Is it one of the basics in research? Is there no research without genuine innovation? How can we measure innovation? Do we need innovation evaluation in human sciences? Is there a difference between natural sciences and cultural sciences because culture itself is “innovative” and evolving? Is it the difference between the objects — “culture” and “nature” — which delineates the status of innovation? What will happen when a third player is added to the binary opposition of “nature” and “culture” when — in line with Bruno Latour's “hybrids” — new objects challenge future sciences? Is the function of innovation also changing?

Why we Still Need to Study the Scientist's Role in Society

Ilana Löwy (CERMES, Paris)

My paper will look at the development of cancer research and cancer therapy in the twentieth century,

in order to display the usefulness concepts such as “scientist’s role”, “role hybridization”, and “reference group” for the understanding of the dynamics of scientific change. The short life and premature demise of the notion “scientist’s role”, this text will argue, is regrettable. One is not obliged to share all Ben David’s views in order to appreciate the originality and importance of his input to the understanding of scientific innovation and change. Ben David’s concept of scientist’s role creatively links analysis of beliefs, interests, motivations and decisions of individuals with economical, institutional, political, cultural variables. His ideas were, however, grounded in elements available in the 1950s and 60s. Today, the understanding of scientist’s role can be enriched by elements brought to the fore by sociologists, anthropologists and historians of science in the last forty years and it includes actors (and “actants”) missing from Ben David original analyses — from scientific instruments and objects, to women and colonized people. In its more inclusive — and hopefully, more robust — version, the study of scientist’s role in society should favor a renewed interest in individual and collective ethos of scientific research, while conserving important lessons learned from science studies about the heterogeneity of scientific practices, and the porosity of boundaries of science.

In Search for Leverage Points to Increase Research Performance in European Universities

Christoph Mandl (Universität Wien)

One of the core insights of exploring the dynamics of systems is the idea that there are levers, or places within a complex system (such as a university, a city, an economy, a living being) where a small shift in one thing can produce big changes in everything. Jay W. Forrester stated this idea already in 1971 in his seminal paper “Counterintuitive Behavior of Social Systems” in the following way:

- Social systems are inherently insensitive to most policy changes that people choose in an effort to alter the behavior of systems.
- Social systems seem to have a few sensitive influence points through which behavior can be changed.

- Social systems exhibit a conflict between short-term and long-term consequences of a policy change.

However, these ideas conceived by Jay W. Forrester and elaborated upon by Donella Meadows had so far very little bearing on the development of research university policies at the European as well as at the national level. In this paper I will develop the concept of leverage points to intervene in research universities. By doing so I will draw on my experience with the Five Year Assessment 1999-2003 of the European Union’s Research and Development Programmes, with the Monitoring of the Implementation in 2004 of the Sixth (2002-2006) Framework Programmes, with the structural design of the newly founded ISTA — Institute of Science and Technology Austria, and with working within ETH Zurich, MIT, TU Wien, and University of Vienna.

The German Academic System in Global Competition

Richard Münch (Universität Bamberg)

In his classical study, “The Scientist’s Role in Society” (1971), Joseph Ben-David identified the core structural features that helped German universities in the 19th century to assume the globally leading role in the advancement of the sciences. He also revealed the structural deterioration taking place in the German academic system in the 20th century, which he blamed for lagging behind the world-wide leading academic system in the United States. This paper tries to demonstrate that Ben-David is still right today, nearly forty years after having published his classical study, and it tries to show why he will still be right in the foreseeable future, even if we take into account the current changes taking place in the German academic system. In Ben-David’s eyes it was particularly the close link between research and teaching that laid the foundation for the success of German science in the 19th century. According to his analysis, the reasons for the decline in competitiveness of the German academic system in the course of the 20th century, in comparison to the leading system of the United States, were (1) the loss of this link in the development of the mass university taking place without major changes in the curriculum; (2) the

growing externalization of research to non-academic research institutes and large-scale university research disentangled from teaching; as well as (3) the hierarchical organization of research under the direction of chair-holders and directors of institutes. The hierarchical structure of the system is the major structural cause for its inability to establish new fields of research and new disciplines at the intersection of older ones, because the typical institute with only a small number of chair-holders or directors requires young scientists to display competences in the core fields of established disciplines to be appointed to such core positions and does not allow for representing new research fields on the level of established professors to expand as it is required to produce new knowledge.

Social Framework of Early Theoretical Science

Dmitri Panchenko (University of St. Petersburg)

The tradition of theoretical inquiry and of theoretical cosmology emerged among Ionian Greeks in sixth century BC. It was essentially based on the knowledge of Near Eastern, mostly Mesopotamian provenance. However, the Babylonian and Assyrian observers of the sky worked for the temples and the kings. They got their bread because they had something to say about the will of the gods and the signs given by them through the interpretation of celestial omens. Some individuals might have had their doubts, but the group interest must have effectively prevented the development of thought in the direction of naturalistic conclusions. The situation in Ionia was much different. Religious beliefs follow certain logic. The gods are supposed to give signs to mighty kings and not to the elected officers of tiny republics. Accordingly, the Greeks had no professional interpreters of celestial omens and were much more open to accepting a naturalistic view of celestial phenomena. The availability of special knowledge regarding the celestial phenomena, on the one hand, and the absence of professional corporations in related matters, on the other hand, made possible the emergence of individuals characterized by a new type of intellectual activity. These individuals, traditionally called the *philosophers*, combined that intellectual curiosity which is natural for a number of people in any society with some specialized

knowledge, first acquired from abroad and then enhanced in the course of their own research. Because they were *free* citizens of a free city-state and typically from its upper stratum, the philosophers were free to apply their intellectual curiosity to any question they wanted to. And because they possessed some special knowledge (in what later will be called astronomy and mathematics), which the common people did not, their innovative ideas were not to be dismissed easily. At the same time the originators of theoretical science (Thales, Anaximander and their followers) claimed the recognition by the *equals*, and therefore they had to answer the question of why their unusual assertions were to be taken with approval. They had thus to provide *arguable* statements. A demand for an arguable statement pertains, however, to a specific set of problems. There is no need for proof or argumentation when one can just go to see or measure. Such a need arises when a subject is unobservable or (in the case of mathematics) cannot be measured. Thus theoretical knowledge emerged as a set of arguable statements about matters that could not be observed (or measured). The interest in such matters and the interactional pattern characteristic for free and equal individuals were brought together within *small associations* — both formal and, more typically, informal. Such associations emerged on the basis of common intellectual interests, friendly connections, or perhaps around a distinctively bright person. The associations thus formed were far from suppressing the initiative and aspirations of their members; on the contrary, the prospect of gaining distinction among their fellows was one of the motives for participation in the association. The fellows, therefore, provided each other both encouragement and critical control.

Centers of Learning and Practice in Entrepreneurship

Thomas Schøtt (University of South Denmark)

Centers of social practice and learning were theorized by Edward Shils. Practices become superior in some places because of superior conditions, typically involving learning, and they attract attention and become centers influencing practice and learning in other places, the periphery. This theory was applied to scientific research and learning by Joseph Ben-David. The

theory is applicable to understanding not only science but also other endeavours, as a legacy.

The theory is here applied to entrepreneurship. Like science was ideologized and idealized in Ben-David's era, entrepreneurship is now widely considered the road to salvation, and raising the level of entrepreneurial activity is viewed as human progress, and the learning of entrepreneurship is seen as the challenge. This study finds that a society's level of entrepreneurship is shaped by its framework conditions, notably its individualism, opportunities for entrepreneurship, education and training in entrepreneurship, and esteem of the role of the entrepreneur. Specifically, the high level of entrepreneurial activity in the USA explained by its high quality of framework conditions. The US entrepreneurship makes it a center attracting attention throughout the world, especially in learning of entrepreneurship. Entrepreneurship learning in American universities is spread globally through academic networks and also through policies advocated by international organizations such as United Nations, World Bank and Organization of Economic Cooperation and Development.

Centre and Periphery in a Global University System

Rudolf Stichweh (Universität Luzern)

Since its invention and foundation around 1200 the European university has always claimed the universality and globality of its knowledge basis. Today, the approximately 20,000 universities in the world really form a worldwide university system built on interrelationships and mutual observations which instruct comparisons. The paper will explore the structures of this global system, and among these structures — in an analytical approach going back to Joseph Ben-David and Edward Shils — it will especially look to the formation of centres and peripheries in the global system of universities. Among the topics the paper will study are: Types of universities and global models for the formation of universities; shifts in migration patterns for students and academics since 1945; the rise of global rankings and other globalizing self-descriptions and the influence of these descriptions on the self-perception of

universities; the tension between local, regional and global contexts of university development; global role structures and unit divisions of knowledge as building blocks of university structures.

Centers of Learning Reconsidered in the Japanese Context

Chikako Takeishi (Chuo University, Tokyo)

The objective of this paper is to examine the recent trends among Japanese universities in terms of the roles of the university articulated in *Centers of Learning* (1977) by Joseph Ben-David. The book was widely read in Japan when the translated version appeared in 1982. Ben-David's points were taken seriously in Japan, though the shortcomings of Japanese universities he pointed out in the book were too deeply ingrained in Japanese academics then to be immediately reflected in reality. It took a quarter of a century for some of his points to be taken for granted, and actually practiced by Japanese academics, on which I present some data. At the same time, Ben-David's sophisticated argument was interpreted in Japan as a simplified dichotomy, and the book was taken to represent "pragmatism" and the opposition to liberal education, philosophy, and moral education. This dichotomous understanding has a risk of undermining the role of general education, the importance of which Ben-David, who foresaw the growing anomie among university students, stressed so much. This paper argues that Ben-David's insight into anomie among university students is all the more relevant in thinking about the problems faced by today's universities in Japan, or perhaps elsewhere.

Title and Abstract: TBA

Peter Weingart (Universität Bielefeld)

The Ongoing Tension between Clinical Practice and Clinical Research

George Weisz (McGill University, Montreal)

In 1966 Joseph Ben-David published an article "Socialization and Career Patterns as Determinants of Productivity of Medical Researchers" (Reprinted in Freudenthal, pp. 71-89) based on studies of Israeli medical students and researchers. Here he highlighted

the tensions between clinical practice and clinical research, suggesting that medical students needed to be re-socialized in some way if they were to become effective researchers. In this paper, I would like to explore this tension in a broader way, looking at the various ways it has been made manifest during the past two hundred years. First, clinical research posed fundamental questions about the clinician's ultimate responsibilities and loyalties. How it came to take its place in the early 19th century alongside medical care among elite practitioners, and centuries will be my first object of enquiry. A second area I would like to explore is the way in which medical research became a central criterion for social stratification within the medical profession. Successful researchers were not just re-socialized; they frequently became leaders of the profession, not without considerable social friction and strain. Finally, I would like to explore the changing meaning of "clinical research". Despite considerable initial skepticism about the relevance of laboratory data for clinical practice, the model for clinical research during much of the 20th century was based on the laboratory; graphs, charts and figures representing physiological functioning constituted the ultimate in scientific rigor for clinical articles. Since at least the 1980s, this laboratory model has been increasingly though not totally replaced by an epidemiological model of scientific rigor as exemplified by Evidence-Based Medicine. This shift has led to even more tension with medical practitioners, some of who see EBM and the Clinical Practice Guidelines that they generate as an attack against individual clinical judgment.

The Sustainability Movement in the American University

Peter Wood (National Academy of Science)

This paper examines the concept of "sustainability" in the contemporary American university. Sustainability wraps into itself economic, social, political, and religious meanings. It has bureaucratic instantiations, personal commitments, and individual vocations. It involves a popular social movement and a growing degree of institutionalization. And it wears both the face of scientific inquiry and normative codes governing everyday life.

The rise of the sustainability movement reflects intellectual weaknesses within the university. At the same time, "sustainability" has a scientific pedigree and continues to be used with some intellectual rigor in the life sciences. Such inconsistencies and ambiguities run through the movement but are seldom seen as an obstacle to elevating "sustainability" as a key concept — one that should subordinate all of the numerous components of academic tradition. Sustainability is an heir to and revival of romantic utopian movements that have swept Western culture before. It is centered on the university as its institutional base; it is, however, much broader than its dysutopian fringe. It also attracts enthusiastic support from scientists, engineers, and economists. As a campus ideological movement, sustainability is rapidly displacing the diversity ideology, which has been dominant since the mid-1980s.

The social structures and processes of scientific activity that Joseph Ben-David traced are sufficiently robust that they will not in any simple way succumb to the latest cultural enthusiasm, but they are not perfectly insulated from it. This paper will examine the displacement of the diversity ideology by the sustainability movement and will trace effects of sustainability on the conduct of science.