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MASS EDUCATION VS. INTERDISCIPLINARY EDUCATION FROM THE CROSS-CULTURAL PERSPECTIVE

I start from the premise that the fundamental purpose ultimately of all education is to develop more complete and integrative human beings who will create a better and a wiser world
(David K. Scott, 2002, p.7).

Introduction

Envisaging the tendencies *in modernism and postmodernism*, the first is the erosion of the boundaries between the great “systems” of modernity – the state (or politics); the market; culture and so on, which has been accompanied by complex processes of de-institutionalisation and re-institutionalisation, which affect the **University**. The idea is simple enough. Politics have been marketised (after all, we are assured by End-of-history theorists that there is no alternative to democratic capitalism and privatisation is now as pervasive a trend as welfare states once were); markets have been politicised and socialised (because companies must cope with more and more regulation, and they can no longer disregard the social, and environmental, consequences of their actions); culture has been commoditised (the so-called infotainment industry is the dominant, and most dynamic, industry of our age) (Nowotny *et al*, 2001).

Thus, this article ponders upon a **scientific dilemma**: what are the consequences of these **changes for higher education**? To be put it simply the associations between teaching and research, between general education and professional training, which are typically regarded as natural, inherent, may, in fact, be merely contingent on specific organisational cultures or, intellectual economies, which are rapidly becoming an anachronism. Or, to take a second example, the university, once bound together by a common academic culture (or so we idealistically believed, and from which many of our ideas of the so-called *Liberal Education* are generated) may now be wired together by management information systems, by the procedural protocols they demand, and by an informational superstructure of strategic targets and performance measures.

This article will be focused around the following **research tasks**:

1. to define the evolution of universities as part of societal and knowledge transformation;
2. to analyse the status of mass education from the cross-cultural perspective, illustrating with examples from European, American and Australian higher education systems; and finally
3. to delineate the importance of the interdisciplinary approach in general and higher education as a challenge for the 21st century for education systems in the world.

Duane Elgin *in Awakening earth* observes (Elgin, 1993) that we are rapidly approaching one of the great pivotal points of human history. The Earth is being severely wounded by humanity, while simultaneously the world is awakening as a conscious, global organism. These two facts seemingly pose a paradox, but in fact are intimately related. Pushed by a harsh reality, the human family is being challenged to realize a new level of identity, responsibility and purpose. To meet this need more rapidly is the most serious challenge for education in the future. And it is a need that must be met for more of the

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world’s population. One of the powerful, countervailing forces is the continuing population expansion. Up to the mid-seventeenth century the world population was less than half a billion but then followed a dramatic exponential increase to 6 billion over only a few hundred years. Our Universities were designed in a very different world long before this dramatic population explosion. We need a new learning ecology for a new world of learning, which must be part of the design of education in the future. This ecology will of necessity combine new technologies with new philosophies.

Although it is commonplace to speak about the global village, the sobering reality is that **1% of the world population have access to a college degree**. This dismal statistic does not augur well for creating a world of learning. In response to the population growth, we might well ask just how many Universities are necessary to maintain even the one-percent college going rate. In Mega-Universities and Knowledge Media Sir John Daniel projects that one new University per week would have to be built for the next 30 years (Daniel, 1996). This expansion will not be possible in the current approaches to education. Spiritual or immaterial assets must be integral to the **design of education for the 21st century**. Our current models of general education do not address these challenges well due to the existing extraordinary degree of differentiation, fragmentation and isolation. To understand this predicament as well as the path out, we must examine the evolution of Universities since their founding in the western world almost a millennium ago.

1. Evolutionary Processes of Universities as the Cradles of Societal and Knowledge Transformations

An overview of the evolution is shown in *Table 1*. As society changed from an agrarian to an industrial age and now to the information age, our approaches to knowledge also evolved. For the first 500 years, Universities were embedded in medieval culture where knowledge was largely based on faith and religion with scholars pursuing knowledge from a mixture of motives, combining rational and irrational, scholarly and superstitious methods of empiricism and speculation. But there was an emphasis on the integration of knowledge across diverse fields, which was lost to some extent with the scientific revolution of the 17th century, and the rise of modernism and the enlightenment. During the 20th century, the fragmentation of knowledge reached its pinnacle in the relativism of postmodern philosophy. Over the same time span, the nature of Universities changed from the *University of Faith* to the *University of Reason*, the dominating paradigm in the modern University (Muller, 1991).

Table 1

Evolution of Universities as Part of Societal Transformation and Knowledge Transformation

| 13 th Century | 18 th Century | | 21 st Century |
|--------------------------|--------------------------|---------------|---|
| Religion | Science | | World philosophy |
| Mystical, logical | Hierarchical, rational | | Holistic, organic |
| Copernicus, Descartes | Kant, Darwin | | Maxwell, Bohm, Wheatley, Wilber |
| Medievalism | Enlightenment, Modernism | Postmodernism | Trans-modernism, Post-postmodernism |
| Agrarian Age | Industrial Age | | Knowledge Age |
| University of Faith | University of Reason | | University of Communication, Integrative University |

Source: after Scott, 2002, p. 10.

This fragmented approach to knowledge derives from the interpretation of the relationship of human beings to the universe, originating with modern science and the enlightenment (*Table 1*). In the words of Tarnas: (Muller, 1991) “If the postmodern mind has

sometimes been prone to a dogmatic relativism and a compulsively fragmenting scepticism, and if the cultural ethos that has accompanied it has sometimes deteriorated into cynical detachment and spiritual pastiche, it is evident that the most significant characteristics of the larger postmodern intellectual situation – its pluralism, complexity and ambiguity – are precisely the characteristics necessary for the potential emergence of a fundamental new form of intellectual vision, one that might both preserve and transcend the current state of extraordinary differentiation. Yet, that situation has encouraged an almost unprecedented intellectual flexibility and cross-fertilization, reflected in the widespread call for, and practice of, open conversation between different understandings, different vocabularies, different cultural paradigms”. This is the opening which will set the stage for a new design of general education.

Widely different knowledge areas will communicate in new transdisciplinary modes, (Nicolescu, 1993; Gibbons, 1994) compared to the traditional interdisciplinary and multidisciplinary approaches, which essentially continue to link closely related areas of knowledge. Just as the *University of Faith* evolved to the *University of Reason*, the next phase will be the *University of Communication*, described by Heath (1997) and presaged by Peirce (1981). As *Table 1* also indicates, other scholars have described the transformation underway from various viewpoints. I call this University of the future the Integrative University for an Integrative Age, which will accelerate the evolving human capacity for integrative thinking.

2. Massification of Education from Cross-Cultural Perspective: Situational Analysis and Exemplars from European, American and Australian Systems of University Education

Mass enrollment in higher education, comprising over 30% of the age group, with an increasing proportion who have no family tradition in higher education, now characterizes the developed world. In the developing countries, enrollments, commonly only between 5% and 15%, have experienced rapid and often unplanned and chaotic expansion, also accompanied by a deterioration in quality (Grundey *et al*, 2004c). As more students enter post-secondary education institutions with a more limited or different preparation than before, the surge in numbers compels more higher education institutions and systems to offer compensatory programs, including both remedial and preparatory. These programs, often amalgamated with or constituting a new “take” on General Education, redefine it to respond to the widened access and diversity of students, and to incorporate program initiatives that address their needs. These are often subsumed under General Education although in fact they may not be part of it.

The rising (risen) demand of college graduates for appropriate jobs and careers, their drive to surpass or pursue a different tangent from their parents, and central to it all, the willingness, even competitive rush of academia to tilt curricula towards job preparation have been reshaping General Education towards more *vocational directions*.

In this General Education revisits its roots, job preparation at **Bologna** and Paris for the then professions of law, medicine and the clergy. Now it is for information technology and materials science and to respond better to such growing fields as *cross-cultural communication and human resource development*. Whether the spreading vocational thrust in higher education is a digression from or an emerging new dimension within General Education is not clear. *Inter alia* it impels General Education to include (a) IT, (b) working on projects, (c) teamwork, (d) writing skills, and (but not widely) (e) foreign language proficiency in its mandate. However, like Great Britain’s controversial new Foundation Degrees, it realms the continuing importance of flexibility in the conceptualization of General Education (Scott, 2000, 2002).

2.1 *The Fall of the Soviet Union: Needs for Reforming Higher Education Systems and its Attuning to the European Standards*

The swift demise of the Soviet Union and the eclipse of its hegemony in Central and Eastern Europe (CEE) dramatically heightened appreciation of the vital role of critical thinking among university students and staff and of universities as an important independent voice for societal analysis. General Education's special contribution to encouraging and training the habits of mind, and undergirding the university's role of social criticism appears more needed than ever, especially as academic freedom and free expression in academia seem to be more threatened in the new millennium. The reforms in Higher Education (HE) is taking place in all CEE countries, which contributes to the Europisation process of latter HE systems (Grundey, 2004a; Grundey, 2004b). CEE universities have introduced the three-layer HE system, comprising of bachelor, master and PhD studies, they have established links with scientific research and have started developing partnerships with business entities. Therefore, the goal of **qualitative labour force** is on mind on every university rector and administrator in order to adhere to market trends and demands.

The recent external expertise and assessment of study programmes in Management and Business Administration at Universities of Lithuania, which was carried out in March 2005, suggested that the number of study programmes in this field has to be considerably reduced, which will be a painful procedure. The final conclusions from this external assessment are not officially announced yet, but from the impression, perceived at Kaunas Faculty of Humanities, Vilnius University (VU KHF), Lithuania, the pivotal contemplation was on the major strength of VU KHF in capability to run *interdisciplinary study programmes*, such as *Business Informatics* (Bachelor degree), *Lithuanian Language and Advertising* (Bachelor degree), *Cultural Management* (Bachelor degree), *Russian and English Languages* (Bachelor degree) (Grundey *et al*, 2004a). The experts encourage more possibilities in uniting three major sciences, which are available at VU KHF – social sciences, the humanities and physical sciences – which leaves an immense space for a better balancing of staff, courses, students' flows and income distribution (Grundey, 2004c). VU KHF has also a good record of merging sciences in PhD dissertations. The cases of merging scientific research of IT and marketing, IT and economics, IT and languages have become an established tradition rather than a one-off study.

Apart from the functional and structural reforms of HE in CEE countries, the quality of studies and its measurement tools are also in the focus of attention (Grundey, 2003; Grundey *et al*, 2003; Grundey *et al*, 2004b). The quality of university studies carries a broad character, embracing the surveying of current university students and alumni, current and potential employers, teaching and administrative staff, consequently determining the current market situation for the demand of **qualified employees**; forecasting and implementing improvements to up-grade current study programmes. An extensive survey in the quality of university studies was performed at VU KHF in autumn 2003 – winter 2004 for a Master degree study programme in *Marketing and Trade Management* (Grundey *et al*, 2003; Grundey *et al*, 2004b). A constructive discussion with marketing employers and experts ensured the strengthening of the programme curriculum by (a) striking the balance of theoretical and practical courses, (b) inviting a social partner on Board of this master degree study programme and (c) sharing the experience of alumni, currently employed in the line of their speciality. By the Decision of the Senate of Vilnius University (came into force in December, 2004), study programmes are being reviewed and assessed on a yearly basis (instead of 2-4 years' basis) at the end of the calendar year, which serves as a good but challenging practice.

2.2 Germany in the Focus of Reforming Higher Education

Extensive debates on HE are being carried out in Germany, where the HE system is well established and probably now needs a touch of “refurbishing”. On one hand, outstanding academicians and senior generation of professors expressed widespread criticism that 1st-year students started their university studies with insufficient Allgemeinbildung, especially knowledge of their *mother tongue, foreign languages, history, philosophy, mathematics and physics* (Heldmann, 1984; Finkenstaedt & Heldmann, 1989). In the main, critics were university professors, probably judging on the basis of the education they themselves had received a generation earlier (Huber, 2002). On the other hand, quite differently, future employers of university graduates, especially representatives of employers’ associations as well as a number of professional associations and also quite a few educators have highlighted the desirability, indeed the need, to develop in young people such general abilities as *thinking in systems and networks, creatively and methodically, flexibility, articulateness, not to mention social skills such as cooperating in teams, communication, etc.* (BDI [Federal Association of German Industry] et al. (1990).

These “key qualifications” (Schlüsselqualifikationen) or soft skills can scarcely be acquired from narrowly defined subject studies alone. To develop them, more complex learning situations seem necessary where problems are not already defined and laid out according to the disciplinary paradigm and course book, but have to be identified and structured by the students themselves (as is the case of project work; Mandl and Reinmann-Rothemeyer (1998) for “situated learning”).

Therefore, in spite of the vagueness of the terms used and the differences in their formulation in course catalogues and elsewhere, the aims which are repeatedly set forth and are essentially alike are to foster (Huber, 2002, p. 26):

- critical thinking,
- systematic thinking or thinking in comprehensive dimensions,
- ability to continue to learn, to inform and to adapt oneself,
- broad orientation and overview (or ability to get this quickly),
- creativity and flexibility, especially in methodology,
- tolerance for ambiguity,
- ability to communicate, to co-operate, to work in teams,
- leadership skills and the ability to bring projects to an end and
- responsibility and willingness to take it.

The talk of **key qualifications** (Orth, 1999) seems to be somehow tempting - most of all for educators. It conjures up the future instead of the past, suggests openness and new developments, and offers formulas for consensus with which all political and educational parties can agree.

2.3 American Universities – Changing the Agenda and Mapping Multidisciplinary Studies

The past two decades have been a time of robust reform in general education in the USA. In the literature on general education, the most consistently cited failure is lack of coherence. Coherence, Ratcliff (1997) explains, allows for many kinds of connectedness, including the role of disciplinary knowledge, languages, and methodologies across liberal arts and sciences. Coherence also connotes integration of content and skills, connection-making across general education and the major, the capacity for higher order skills of integration and synthesis, and the widespread blurring of disciplinary boundaries. Three monographs in a new series on *The Academy in Transition*, sponsored by the Association of American Colleges and Universities, establish the context of current reforms.

In *General Education: The Changing Agenda* (1999), Jerry Gaff identified thirteen major trends. Renewed emphasis is being placed on liberal arts and science subject matter, extending into professional and pre-professional programs. Greater attention is being paid to fundamental skills, including computing. Core programs are being strengthened and standards raised. Interest in interdisciplinary learning and integration of knowledge is extensive. The study of diversity in the U.S. is drawing on new scholarship on cultural identities. Global studies programs have expanded, and international themes are being incorporated across the curriculum. The moral and ethical dimensions of every field of study are being explored. The first and senior years are being targeted as crucial points in undergraduate experience. General education is being extended into advanced study and across all four years of college. There is heightened interest in active, experiential, technological and collaborative methods of learning. New approaches are being taken to assess learning outcomes, with feedback channeled into improving courses and programs. Further administrative support is being given to faculty to collaborate in curriculum planning, course development, and teaching of core courses.

Interdisciplinarity is not simply one more item on this list. It intersects with every trend that Gaff identified. Integration, synthesis, and cohesion of learning, Gaff (1999) exhorts, are hallmarks of the purpose of general education. The teaching of liberal arts and science subject matter is being updated to include new interdisciplinary research. Skills are being infused into the teaching of content, and synthesis is being targeted as a primary skill. The teaching of diversity and international themes, as well as moral and ethical issues, draws on new scholarship in interdisciplinary fields. First-year seminars often feature integrative study of themes and problems, not the disciplines per se. Senior capstone seminars afford opportunities to reflect on the connections of both majors and general education to other disciplines and to the "real world." Four-year programs often move from a **multidisciplinary overview** to a higher-level synthesis. Collaborative learning and other innovative pedagogies encourage integration and connection making. Assessment is becoming more attentive to interdisciplinary outcomes and new interdisciplinary understandings of the learning process. And, the needs of interdisciplinary teaching are being recognized in faculty development programs.

Interdisciplinarity has become more important in the undergraduate curriculum, because the need for integration is pervasive. "The entire ethos of the contemporary world," Carol Geary Schneider and Robert Schoenberg wrote in another monograph in the series, *Contemporary Understandings of General Education* (1998), "calls for the capacity to cross boundaries, explore connections, move in uncharted directions." American higher education is in a period of transformative change. Integration of learning is central to this change, not only in general education but also in the rapid growth of interdisciplinary majors and minors. Multidisciplinary and integrative learning create awareness of relationships, tensions, and complementarities among ideas and epistemologies. They generate links among previously unconnected issues, approaches, sources of knowledge, and contexts of practice. Increasing **interdisciplinarity of both student interests and faculty behaviors** underscores the importance of preparing students, in Schneider and Schoenberg's words, "to navigate a kaleidoscopically complex world."

In a third monograph in the series, *Mapping Interdisciplinary Studies* (1999), Julie Thompson Klein identified seven major trends in integrative approaches to general education today: replacing distribution models with interdisciplinary cores; insuring a broad overview of knowledge; clustering and linking courses; building learning communities; including diversity and globalism; incorporating knowledge from interdisciplinary fields; introducing innovative pedagogies. According to theorists Klein and Newell (1996), among others, interdisciplinary approaches in general education are the appropriate curricular response to

the explosion of knowledge and the evolution of disciplinary boundaries implicit in the general education trends noted by Klein and Doty (1994). Interdisciplinary approaches in general education also hold great promise for developing intellectual skills necessary to increasingly complex modes of analysis and problem solving precisely because they can achieve a more holistic perspective through the emphasis on connection and integration (Klein, 2002).

2.4 Australian Universities – Steering Ahead in Combined Degrees

Australia does not have a strong tradition of analysing or debating the nature and purposes of the undergraduate curriculum. An OECD review of the first years of tertiary education noted that it was ‘unable to detect a mainstream of curriculum analysis’, in Australia, and asked ‘why have there been so few attempts to develop institutional programs that ensure an effective combination of general or liberal studies and more directly vocational ones?’ (OECD, 1997, p. 21).

Each university in Australia determines the content and structure of the curriculum and there is considerable diversity in the institutional processes of course approval and accreditation (McInnis, 2002). Some degree programs are influenced quite specifically by professional associations, others are more broadly shaped by peak bodies such as business-higher education groups, while generalist degrees, such as science and arts, are the product of more diverse constituencies with diffuse and somewhat ambiguous agendas. The undergraduate degree for most students is a three to five year program divided into semester-length subjects, increasingly with a vast array of options. As might be expected, **vocational courses** have a strong component of the curriculum directed at the acquisition of technical knowledge and skills.

The balance of theory and practice varies considerably across the universities and fields of study, as does the extent to which students can specialise within the field. There are important differences between the vocationalism of the university sector and that found in the system of Technical and Further Education (TAFE) colleges. The latter is more explicitly bound by government and industry requirements for the certification of the competence levels of students, whereas there remains a greater level of autonomy for the universities to determine the course requirements.

A relatively recent, and still poorly analysed development, is the emergence of the combined degree, following the precedent set some years ago by *Arts-Law degrees* as the preferred high status generalist degree (McInnis and Marginson, 1994). *Science-Engineering*, *Arts-Commerce*, and *Science-Law* are just some of the possible curriculum combinations that students construct to provide them with a form of ‘product differentiation’ in the eyes of employers, as well as giving them the opportunity to keep their options open. This program is particularly popular for high achieving undergraduates in the selective research-intensive universities, and effectively provides the mix of liberal and vocational curriculum suggested by the OECD review, but in most cases requires *five years of undergraduate study*: needless to say, the level of knowledge integration and curriculum coherence is problematic.

The concern is that students may take these options simply because they can, and the outcomes are the product of accident rather than design on the part of universities. Efforts to grab a share of the student market can have unintended consequences, including the shaping of the curriculum. In an analysis of these developments, Gallagher (2001) points to the more deliberate efforts of one institution by way of example, the University of Canberra, to encourage students to take double degrees combining a specialist with a general degree, ‘so that professional capabilities are complemented by a structured general education (Gallagher, 2001, p. 29).

3. Challenges for Interdisciplinary Approaches in Higher Education in the 21st Century

Internationalization is used here to refer to increased cooperation among higher education systems and institutions, including the kinds of student and staff exchange facilitated by **ERASMUS/SOCRATES** and the recognition by a student's home institution of academic studies undertaken at another institution, as through the *European Credit Transfer System* (ECTS). Joint and double degrees offered by a student's home institution collaboratively with one in another country also weave bonds between institutions and system (Grundey, 2004b). These bring them closer together in their academic structures and programs in line with the principles formulated in the **Bologna Declaration** of 1999 and subsequent statements from the Salamanca and Prague meeting of European Community academic leaders in March and May 2001 of moving towards **greater compatibility, comparability, and harmonization in their higher education systems**.

As stated in the **Salamanca Convention**, the objective of the more than 600 higher education leaders and other participants at the meetings in Salamanca was not to bridge institutional differences between systems but to contribute to the process of convergence called for in the Bologna Declaration. The goal of harmonization of the higher education systems in the 29 signatory governments in no way assures a single academic degree structure, much less a place for General Education, although a two-tiered bachelor's–master's is becoming a model, among the countries. However, given the concern for it, articulated in the papers in this volume, although for different reasons, the inclusion of General Education into an agreed degree structure might be an additional goal as well as outcome of the Bologna Declaration prompted harmonization, internationally, not just in Europe.

Globalization, together with Information Communication Technology (ICT), is transforming the players, rules of the game, and outcomes of interactions taking place world-wide, including in education, international education as well as international business (Grundey *et al*, 2004c). To prepare students to function in the new globalized world, General Education is incorporating teaching about the commonality of human experience, inter and cross-cultural communication skills, ethnic identity and economic interdependence. No definitive study has been undertaken on how globalization has effected higher (and secondary) education in countries around the world, or on the interrelationship between international and globalized education and where they coincide and diverge on cultural grounds.

While globalization is variously defined, ranging from increased interdependence among governments, as through the European Union or NAFTA, to U.S. hegemony in world affairs, financial markets and even culture; in fact the central feature of globalization is the application of information technology worldwide which has enormously speeded up international technology in finance, business, trade and administration. Globalization multiplies transactions and change, resulting often in economic dislocation for some firms and individuals, opportunities for others (Scott, 2000).

Globalization is likely to impact higher education in the following several ways.

First, as global issues are increasingly recognized as neither remote nor foreign but local and immediate, the need to understand and integrate them into the curriculum, including General Education, may call for new kinds of **interdisciplinary and inter-unit teaching in colleges and universities**. These in turn should call for new and expanded approaches in institutions' connection and engagement with the world and General Education's contribution to this connection.

Second, the combination of globalization, the relentlessly rising demand for higher education, and the explosive growth of information technology are driving the expansion of

distance education.

Third, common to these efforts is the development of ***devolved or cumulative degrees*** for which students take courses and modules from a number of providers or through alliances of “on-campus universities” with business enterprises, of which the internationally constituted Universitas 21 is one example. It is not insignificant that a proposal recently drafted by a higher education interest group, mainly for profit education institutions in the U.S., for submission to the World Trade Organization, aimed at reducing obstacles to suppliers of higher education marketing their services in other countries that permit private education (Altbach, 2001). Whether the scope, quality, or even inclusion of General Education in such degree programs and marketing of higher education would survive such commodification is dubious.

Conclusion and Discussion

General education, suitably modernised, is needed more than ever in mass higher education systems. There are three broad sets of reasons for believing this to be true.

1) The first essentially concerns the diverse intake of students into **mass systems** of higher education. They come with very mixed abilities and aspirations. For many, their concern is to have access to a “college culture” in a wide sense, rather than to pursue a particular discipline or even prepare themselves for a specific job or profession. In a world where traditional signifiers of social status – class, gender, ethnicity and so on – have become much less significant, participation in higher education, ideally successful participation culminating in an academic award, has become an important element in the construction of social identity (and is also associated with desirable life-styles). It is this connection, rather than the older idea of a reproduction of elites, that is key to understanding the dynamics of modern higher education systems. It is also an idea that emphasises the need for general (if not liberal) education.

2) The second set of reasons arises from changes in ***professional roles and occupational structures***, produced by the development of a post-industrial job market. Stable linear careers are being replaced by so-called portfolio careers (and work, in a traditional form, is perhaps becoming less important as entry into the **labour market** is delayed and exit from that labour market accelerated). Professional expertise is also being increasingly challenged by new forms of legitimate critique, new resistances, as the production of knowledge becomes more widely distributed (and democratised). This environment, too, emphasised the need for adaptable and transferable skills – and this emphasis may favour a revival of liberal education.

3) The third set of reasons reflect the sheer heterogeneity, volatility, even promiscuity of **post-modern intellectual culture** enables us to conceive new synergies. As a result the affinities between these different interpretations – elite liberal education, general education, popular education, **inter-(or multi)-disciplinary education** and education for capability – may have become easier to grasp as the grip of intellectual, and moral, absolutism has weakened.

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