INTERDISCIPLINARITY AS A MODE AND A METHOD

After all, reality is not divided up into specialist subject areas, people often say, when demanding greater "interdisciplinarity"; higher education policymakers are prone to say this, citing successful collaboration between neurologists and cognitive scientists in areas such as research into how the human brain works. It is a plea heard even more frequently from those who encourage humanities scholars to cooperate with natural scientists – in an attempt to convince a public that is sceptical of the usefulness of liberal arts that there are situations in which philosophy, ancient Aramaic or Byzantine history can actually serve some useful purpose. The ethical principles of medicine, for example, engineers' sense of moral responsibility – an important issue in Germany in particular, because of the country's history! The humanities are viewed as exerting a civilising influence on utilitarian disciplines; and this, at least, could serve as a possible form of legitimation.

"Interdisciplinarity" primarily denotes cooperation between independent disciplines on joint research topics with the aim of integrating various partial aspects into a new joint stance. Strictly speaking, the major conferences that FRIAS held in 2009 und 2011 (on "Evolution" and on "Catastrophes") were multidisciplinary rather than interdisciplinary because, above all, they enabled various subject specialists to present their disparate ways of looking at a particular issue. Interdisciplinarity therefore involves more than simply putting discipline-based perspectives side by side – although that in itself is a useful thing to do, in the sense of "We agree to disagree". Interdisciplinarity means much more: it means interlocking methodologies and bodies of knowledge, the dissolution of boundaries between different disciplines in the context of specific research questions.

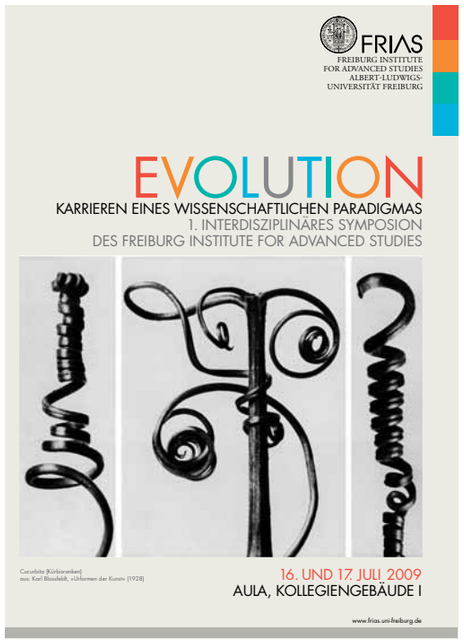
This is taken for granted in many fields but is treated differently in various academic cultures. When an ophthalmologist and a neurotherapist are working together on eyesight problems, it is fully understood that their work is an interdisciplinary project. In contrast, when a civil engineer and an IT specialist are devising a new concept for displaying structural damage, this understanding may not exist. Definitions are therefore also determined by the traditional demarcation lines between disciplines. The emergence of new disciplines and subdisciplines is an ongoing, open-ended process. The world is changing and science responds to this with ever more subtle differentiation and specialisation. For instance, over a period of about 150 years, biochemistry has developed from medical physiology, biology and chemistry, in close association with genetics. In the humanities, the emergence of the current, familiar discipline-based structures dates back no further than to around 1900 when history departments established the classic division into ancient, mediaeval and modern history, and German studies developed its triad of modern German literary studies, mediaeval studies and linguistics. Other disciplines, such as sociology and political science, which grew out of the study of governance and public policy in the 1920s, came into being even later.

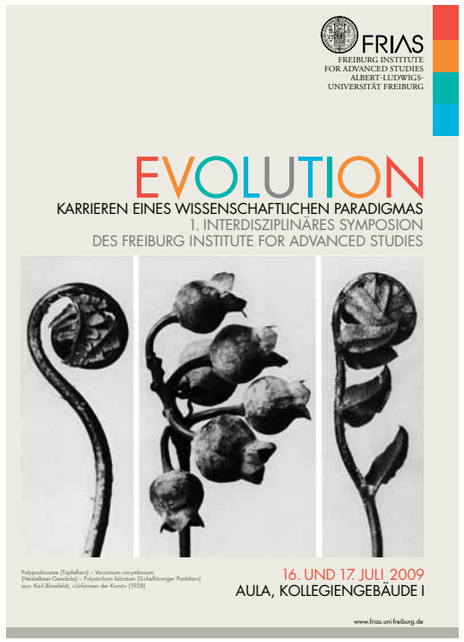
In major subject areas in particular, specialisation has now reached the point where collaboration and often even communication between the various branches of a discipline are difficult and increasingly rare; as a result, the German Council of Science and Humanities suggested some time ago that such disciplines (German studies and sociology were mentioned as examples) should try and find ways of integrating their disciplines more tightly through special conventions in order to prevent their visible unity being lost. Disciplinarity, more concisely put, is therefore the order of the day; build up a canon of work, highlight key areas of methodology and distinguish the important from the less important! Otherwise, German studies will vary completely from one university to another and the unity of the discipline will be entirely lost. History, as an independent discipline, ultimately itself comprises a large number of individual disciplines and subdisciplines, ranging from the history of architecture, medicine and engineering, environmental and economic history, through to social history, history of art, gender and climate history: Facts that are now covered by a wealth of individual disciplines coalesce historically into sub categories of a single discipline – "history"; the shared repertoire of historical methods is therefore often a very slim tome. However, this problem is not exclusive to the humanities and social sciences. Specialisation has also resulted in extreme diversification in many natural sciences and life sciences as well as in teaching. All the same, the major disciplines try to ensure that a specific canon always remains compulsory in foundation courses, albeit not always successfully.

Interdisciplinarity, on the other hand, starts out from specific problems and issues that cannot be resolved or answered adequately using the methods provided by just one discipline. This has long been routine practice in the various increasingly converging sub-fields of chemistry, biology, medicine and physics and in many areas of engineering. Cell research, for instance, cannot be conducted other than as interdisciplinary research. The situation is similar in many fields of the humanities. Anyone studying society and culture of the 1920s will, besides literary science and history, also have to become involved in philosophy, sociology, art history and musicology. Some major research projects would be inconceivable without the concerted efforts of representatives of various disciplines, contributing their different methodologies and bodies of knowledge.

Nevertheless, in the everyday world of teaching and research, things look quite different. It is not possible to teach or study everything and the fate of so-called composite disciplines such as cultural studies or media studies or even the new style modular bachelor degree demonstrate that, ultimately, a jack of all trades ends up being master of none. Specialisation has a power and significance of its own – studying something really intensively and in-depth, moving beyond previously known knowledge: That is an important experience; for academics it is probably the most important experience. And it also fosters skills that are decisive in other professions such as journalism: It is not important whether one studies theology, physics, Islamic studies or Spanish, say the executive editors of major newspapers, almost in unison – what matters is that one studies a subject properly, i.e. intensively, in a committed manner and with a lively, enquiring mind, that is what counts in practice, regardless of subject.

Obviously, this also applies to research. Disciplinarity must come before interdisciplinarity: One must master, love and care about one's subject before one can explore its outer reaches. Academic jobs are also handed out on the basis of discipline-based achievement: A chemist must excel in chemistry, a physician must excel in medicine and an anglicist must excel in English language and literature if they want to achieve a professorship. There is thus some academic and non-academic justification for this discipline-oriented approach – sticking to one's own "craft" and its rules. It also has a dynamism of its own: Anyone who has chosen a field that falls between two disciplines comes up against more problems when it comes to promoting





research or furthering their career than someone who has only worked on core subjects. Someone who has conducted research in the borderline area between surgery and internal medicine may well fall outside both these disciplines. Any philosopher suspected of adopting an excessively sociological approach will find doors closed to them at many universities. There is nothing malicious in this – in teaching, the core areas must be covered and because the number of jobs is limited, a faculty will tend to choose the person who can offer the assurance of having mastered the canon.

In addition, anyone who leaves the safe haven of their own subject loses their expert status. As a researcher, a person who is accustomed to being regarded as an accepted specialist expert in their own field will avoid situations where it becomes evident that they know little about a related discipline. Such discussions start with "I'm not an expert, but…". But dabbling is all part of the trade in the case of interdisciplinary debates and it is often dumb questions posed by outsiders that direct experts towards new approaches. If they can allow themselves to be directed. Fear of contact with other disciplines is linked to fear of loss of status and also with the feeling that, because one is not at all up to speed with the state of the art of related disciplines, one will probably be obliged to accept a position that is below one's current level for quite a while.

The rules of one's own discipline then reassert themselves. This is especially evident in the case of the time-consuming expert assessment procedures in the specialist committees of the German Research Foundation. An estimated three out of four applications that are actually interdisciplinary in nature are rejected, citing the inadequate discipline-based cohesiveness of the subject matter. One application in the (relatively little researched) field of legal contemporary history was rejected by the legal expert because of glaring methodological deficiencies in the area of systematic comparative law and rejected by the historical expert, citing the specialist historical literature that had been used. Both experts began their appraisal with a eulogy to interdisciplinarity.

And finally, anyone who carries out interdisciplinary research runs a higher risk of failure. It is fairly easy to predict, in one's own field and possibly with the help of colleagues, whether or not a project looks promising. This is far less often true when an interdisciplinary approach is adopted, if it is worthy of the name. A failed interdisciplinary research undertaking may unearth considerable information about the fringe areas of disciplines or merely provide evidence of the extent of ignorance, a boring discipline-based project may present yet another variant of facts that are only too well-known ("…. Has now also been proven to apply to the south Baden region…") but it is considered a success and boosts the careers of those involved, whereas the interdisciplinary project does not. Discipline-based work finds a ready-made captive audience in professional associations. Interdisciplinary work does not; it first needs to attract an audience, and only rarely manages to do so.

However, at the same time, interdisciplinarity is encouraged and promoted from outside and from above. In response to this, especially large-scale projects are frequently suggested to be interdisciplinary. Thus, research programmes of Collaborative Research Centres (CRCs), clusters or research groups construct a wide-ranging "roof" that overarches several subjects, is as innocuous as possible and has an impressive, but noncommittal, title ("Endangered orders", "Transcendence and community spirit") that enables as many disciplines and subdisciplines as possible to operate under this one roof, without this actually entailing any integration of the methodologies and bodies of knowledge of the disciplines involved.

Interdisciplinarity, if one takes it seriously, points in other directions – not just primarily to large, additive projects, but rather towards exploratory experiments with small groups or, *horribile dictu*, even individuals. Coming to grips with another subject, with its unfamiliar customs and rituals, almost endless specialist literature and informal intellectual hierarchies, takes time and calls for a touch of the desperate idealism that behoves anyone who wants to break the mould. This applies to individuals as well as to (small) groups. But this is how new questions and hitherto untrodden paths are revealed, how new ideas form, even though it may only be possible to implement a fraction of them.

There can be no doubt that systematic large-scale projects based on division of labour are both important and necessary. In this country, there are appropriate institutions, adequate funds and excellent academics for such projects. Academic institutions that proclaim "interdisciplinarity" as one of their goals (and FRIAS is explicitly one of them) will fulfil their mission if, rather than simply relying on the operation of systems, they create a climate in which eccentric, unusual approaches, which may well lead nowhere, can flourish and where mavericks and academics who move between disciplines are encouraged to link up with like-minded people from different worlds.

This kind of thing does not happen to order, it is usually informal and ad hoc. One cannot plan the unplanned but one can create conditions that facilitate interdisciplinarity. This requires unhurried structures and patience. And a fixed, discipline-based framework – otherwise there will be no limits that can be gainfully transgressed.

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