

Towards a General Theory of Function System Crises

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I Functional Differentiation and Economic Crises

In contemporary sociological research and theorizing a certain acceptance of the idea of functional differentiation is to be observed.¹ That is, there is a convergence in postulating a horizontal order of function systems. From this follows the conclusion that there is no such thing as a structural primacy of one function system towards all the other function systems in world society. There are primacies to be perceived. But these are local or situational primacies which change from place to place and from situation to situation. In the process of writing this paper, for example, I have to establish a situation in which a primacy of scientific relevancies is operative. Otherwise I would be unable to finish the paper or endanger its scientific quality and validity. But it is obvious that such a primacy is strictly limited by other primacies waiting in its vicinity.

There exists a significant number of function systems in world society. It is easy to identify at least ten of them: politics, the economy, law, religion, science, education, intimate relations and families, art, the sports, mass media, the health/illness complex, etc. Each of them establishes its own communicative domain and legitimately claims a primacy in its own domain. For each of these function systems there are ideas and theories how they normally operate and which are the operations and procedures characteristic of them. But mostly there are no theories about those disturbances of operations which one might call a function system crisis. Of course there exists much writing on political crises, for example on the loss of legitimacy suffered by a government and other political actors in a given political domain. And we have even more theory and writing on economic crises, i.e. disturbances in money, credit, capital and other core variables of economic operations.

But there is an obvious lack of ideas on crises in other functional domains – and a lack of explicit theorizing on what a crisis in a specific functional domain means for all the other function systems in a functionally differentiated society. If there only existed political and economic crises this would somehow conflict with the idea of a horizontal societal order in which no clear preeminence of specific function systems can be postulated. If a crisis is among other things a way of disturbing operations in other function systems, too – a prevalence of political and economic crises would mean an asymmetrical ability to produce constraints and irritations for

¹ Cf. for a recent debate on the prevalence of functional differentiation Münch 2010 and Stichweh 2010.

other function systems and such a primacy in negativity would somehow call into question the postulate of a horizontal order of functional heterogeneity.

Of course there exists much informal knowledge on crises in other functional contexts. Late medieval Europe has often been described as having been shaped by devastating epidemics (pestilence, lepra etc.), that is by crises of health that had a significant influence on all the other realms of social life. And the Reformation means not only the rise of a new set of religious beliefs. It has often and justly been seen as a crisis of European religious beliefs and as such it had once more significant impacts on other functional contexts from art and science to politics and the economy. Of course these two cases differ very much: In the case of late medieval epidemics we primarily have to do with a lack of health institutions which is at the basis of the devastating influence of the epidemics. It is more a societal crisis based on environmental impacts on a society which is not protected by adaptive (health) institutions of its own.² In the case of the Reformation we observe a deep crisis of the most traditional and the most extensive institutional set of contemporary European society.

Both examples demonstrate that there are no good reasons to restrict oneself to the observation of economic and political crises. Therefore the aim of this essay will be to experiment with some formulations which could lead us towards a general theory of function system crises. This theory would not only have to cover all the function systems of contemporary society and elucidate their crisis proneness (Ch. II). It would secondly have to look at structural couplings between function systems to be able to understand the mechanisms which transfer the consequences of crises to other function systems (Ch. III). Finally, we will study 'ghostwriting' as a mechanism which may induce crises by coupling the operations of a system to extraneous sources (Ch. IV).

II Elements of a Theory of Function System Crises

II, 1 Core Dimensions of Function Systems

The first hypothesis for which I want to argue in the following is that there are crisis tendencies and crisis forms of their own in all the function systems of modern society. Therefore it would be useful to have a general frame for crisis theories which afterwards can be specified and historicized in doing research on different function systems. In the next step we will then have to look at structural couplings between function systems and the transfer of effects.

Six components or aspects of any function system will be in the focus of the argument to be presented here. I will first describe them in a general and abstract form and then try to understand them better by analyzing three examples:

² An obvious parallel is the European colonization of North- and South-America in which up to 97% of the indigenous population was killed by pathogens against which there were no protections either by health institutions or by acquired immunity (see Mann 2006).

1. Constitutive symbols

All function systems are based in symbols constitutive of their processes. Money in its economic import and power as a political symbol are good examples of this. It is not supposed here that there exists in a concrete function system only one class of constitutive symbols. There may arise plural forms of symbolization.

2. Standards for symbol production

Symbols are coupled to function system standards which regulate the production and the distribution of symbols.

3. Motivations regarding symbols

Participants (inclusion addresses) in function systems have to be motivated to access and to strive for symbols. There probably exist social processes by which these motivations are brought about and are regulated. Therefore motives are only secondarily states in psychic systems. Primarily they belong to a cultural repertoire of motives which is transformed in processes of sociocultural evolution.

4. Integrity and corruption of standards

Function systems may be able to ensure the integrity of their standards in their daily operations. But on the other hand there may arise practices which can be perceived as a corruption of standards of the respective function system.

5. Inflation and deflation of symbols

One prominent manifestation of crises in function systems consists in processes of inflation and deflation in its constitutive symbols. These inflationary and deflationary processes depend on the rise and decline of symbols (compared to other symbols), on changes in standards, on the dynamics of motives and on the integrity or corruption of standards. Inflationary and deflationary processes are then to be seen as a composite result of these partial processes.

6. Influence and trust as general symbols

With regard to all inflationary and deflationary processes we can point to two very general resources relevant in every function system which are affected by inflationary/deflationary processes: Influence – i.e. our ability to motivate others to do something which they would not have done without our influence – and trust as a highly generalized precondition of influence.

II, 2 Higher Education as a Case

One first illustration I will try consists in an application of this analytical schema to the system of higher education. Higher Education is not a function system in its own right. But higher education is an ever more prominent subsystem of the global function system of education. For the first time in history higher education became a really big social system in the last fifty years, including since around 2000 more than 100 million people which is two hundred times the number a hundred years earlier.³

³ See Schofer and Meyer 2005; Meyer and Schofer 2007.

The constitutive symbols of higher education (Pt. 1) are partly substantive, partly formal. There are on the hand educational ideals or symbols which connect the operations of higher education with an anticipated way of life by symbolizing the value added by higher education – for example: the education of a ‘gentleman’; ‘character formation’; ‘civility’; ‘Bildung’; ‘expertise’ – and so on. And there are on the other hand the formal, quantitative symbols of success in higher education: admission, inclusion, credits, grades, degrees, certificates. Both types of symbols have to be connected to standards which regulate the ascription and distribution of symbols (Pt. 2). Standards may be handled in a strict and rigorous way or they can be applied pluralistically and liberally. Thirdly, looking at students in higher education they may be strongly motivated to get access to higher educational symbols or they may look at them as only being one component of a complex career strategy with shifting evaluations regarding the value of individual constituents of such a strategical mix (Pt. 3). Higher education systems can be based on a strong belief in the integrity of its standards (Pt. 4) or they are prone to a corruption of standards, if for example public universities practice ‘diploma washing’ of ‘unclean’ degrees conferred by private universities, as seems to be a routine practice in present-day Romania.⁴ From the interaction of these different aspects of the production and distribution of constitutive symbols can follow inflationary or deflationary processes in systems of higher education (Pt. 5) and it seems plausible that these inflationary or deflationary processes are an adequate operationalization of what a crisis in higher education may mean.⁵ And it is easily to be seen that from these inflationary and deflationary processes in higher education consequences for other function systems will result.

II, 3 Roman Catholicism and Sanctity as a Constitutive Symbol

My second example regards the production of saints and angels in Roman Catholicism. It is easily to be seen that Roman Catholicism is a kind of religion which is not exclusively based on strong unitarian symbols (beliefs in a monotheistic god). If there is not enough trust in God, if monotheism might result in a deflationary spiral of loss of belief, for a Catholic it is better to introduce further religious symbols to cater for publics who could not sufficiently trust a monotheistic God. In Edward C. Banfield's *The Moral Basis of a Backward Society (1958)*⁶ which is an ethnographic study of a village in *Campania* in 1955 there is an interesting story about local inhabitants who believe that there exists a firm patron/client-link between God/Jesus and the local priest. Therefore, normal people have nothing to expect from God/Jesus and they will only pray at altars devoted to saints whom they believe to be clearly outside of this patron/client-linkage.

The supply of saints and angels in Roman Catholicism is somehow similar to the money supply in the economy. In both cases we have to do with symbols constitutive of a specific functional sphere and we need a well-controlled process of the quantitative expansion of symbols to support and to allow growth and inclusion processes in the respective functional sphere. Roman

⁴ Cf. Dan 2009. Many other corrupt practices in other university systems – see IV on thesis ghostwriting.

⁵ A similar theory has first been proposed by Parsons and Platt 1973.

⁶ Banfield 1958, 123-126.

Catholicism does no longer produce angels as far as I know.⁷ But it intensified the production of saints in recent times.⁸ Catholic saints were for fifteen hundred years primarily a local or regional phenomenon. Since 1592 the canonization of saints definitely became a global decision process in which the final decision after a complicated procedure is taken by the pope himself. From 1592 to 1846 there arose only 64 new saints; to these were added 70 until 1903; from 1903 to 1963 a further 77 were added. Most of these saints were of European origin although their sanctity had no regional limitations. And then after Vaticanum II for the first time in history we have to do with the production of saints for a World Church in a new, more inclusive understanding of this term.⁹ Paul VI adds 84 saints in 15 years; and Johannes Paul II in 27 years canonizes 482 saints, that is a significantly bigger number than had been consecrated in 400 years before (Pt. 1).

There are strict procedures and standards in such a canonization process. The core institution is a papal congregation which does its work in Rome and is surrounded by experts, especially medical consultants who do research on miracles (which have to have been effected by the prospective saint after his or her death) which function as the most important condition for canonization (Pt. 2).

Furthermore you need in a population motives for having new saints. These motives play a strong role in the canonization process. They are institutionalized in the form of a fame (*fama sanctitatis*) which has to exist for some time and by which someone is already respected and worshipped as a saint long before this status has been formally conferred on him or her. That means that by believing someone to be a saint and by wanting him or her to have this status you can cause this person really to become a saint. This mechanism of a *fama* functioning as a precondition is an interesting instrument of equilibrating demand and supply of saints – neither making unnecessary saints nor denying the status to someone of whom many people think that he or she deserves it (Pt. 3).

Where do the saints come from? The regional distribution of saints gives us an impression of the global distribution of motives. More than half of the 482 saints Johannes Paul II canonized came from three Asian countries (Vietnam, Korea and China, 276). There exists a strong European group with Spain, Italy and France (137 saints), and there is Mexico with 28 saints. Then follow Japan and Poland, each with 9 saints. Official church ideology formulates this process as “inculturation”, as a way of incorporating local ways and usages into the universalism of the Roman church.

As much as we know there arose no corruption of standards from this expansion of the production of saints (Pt. 4). “Inculturation” functions as the model which allows a cultural diversity of production conditions for saints without necessarily falling prey to corrupting

⁷ But of course it made use of angels in earlier times. For the usage of angels – for example “armed archangels” as symbols of military prowess - in colonial paintings in the 17th and 18th century High Andes there is an interesting analysis in Valenzuela 2009.

⁸ These and the following data are taken from the very interesting article of Bienfait 2006.

⁹ Cf. on Vaticanum II and its communicative inclusion effects Fresacher 2006, Ch. II.

compromises. If this is true and if we take into account that this production of symbols of sanctity accompanies the growth and the globalization of the Catholic church as an ever more inclusive world church it may be the case that this is a story of a slightly inflationary growth process, but an inflationary process which until now did not produce a crisis or a speculative bubble of sainthood. Therefore this story is not a crisis story but a story of a strongly hierarchical organization which succeeds to steer its own growth process and this way prevents inflations and deflations.

II, 4 The Great Depression (1929 – 1933)

It should be possible to give descriptions of all the function systems in present-day world society in a way that we make use of the list of elementary constituents of system processes given here. And in regard to each of these elementary constituents disturbances could arise from which a crisis in the respective function system might result.

Probably the biggest crisis in twentieth century society was the so-called Great Depression from 1929 – 1933. Besides the two world wars (and by the way closely connected to both of them) it was by far the most momentous, most consequential event of twentieth century history. I will illustrate its extent with a few numbers referring to economic discontinuities between 1929 and 1933. In these four years the real Gross Domestic Product (GDP) in the four major economies (USA, Great Britain, Germany, France) shrank by 25%; unemployment among the male population in these countries rose to 25%; wages were cut by 33%; commodity prices shrank by 50% and consumer prices by 30%. Bank credit in the USA was reduced by 40%, and in many other countries the whole banking system collapsed.¹⁰

Behind this economic and financial crisis with repercussions in all the other functional systems of society there possibly were two major factors. First: After World War I the most important political powers never succeeded to find a solution for the two main sources of debt: Reparations (in the German case) and war credits (Great Britain, France). From this resulted an overindebtedness which in the German case first led to the catastrophic hyperinflation of the early twenties and then in 1928/9 after the German return to a fixed parity to the impossibility of refinancing short-term debt (after a rise in the American interest rate) and finally to the default of the German state. This first major factor was in the first instance more an ongoing political crisis (of lack of trust and enmity) which transferred its effects into the economic sphere. Secondly: In terms of the economic and financial system the most important error after 1918 was the belief in and the return to the gold standard.¹¹ The gold standard tied the constitutive symbol of the economic system (money) to a completely unrealistic standard (the promise of exchangeability of money into gold via a fixed parity). This had worked before 1914 as the economic growth of the world economy and new findings of gold (in South Africa and elsewhere) were accidentally in step with one another. But this never was the case after 1918. The fixed parity to gold made it impossible to devalue currencies in the Great Depression and

¹⁰ These numbers in Ahamed 2009, p. 497.

¹¹ See on this Eichengreen 1995 and Ahamed 2009

from this resulted the slide into deflation in all the major economies after 1929. And the imbalance in the distribution of gold (too much gold flowing to the USA) was a main reason for the American federal bank to hold to a low interest rate for too long which resulted in the speculative bubble at Wall Street which crashed in 1929.

III Structural Couplings between Function Systems and the Transfer of Crises

After looking at crisis phenomena in some function systems we have to analyze more precisely the transfer of functional crises to other function systems. In a first approximation we will postulate that between function systems there is often to be observed an interruption of interdependencies. If this is the case there may arise a crisis in one of the function systems of society without any consequences in specific other function systems. A crisis of political legitimacy need not have any influence on the belief in religious symbols.

But there are at least two other possibilities. On the one hand it often happens that a crisis in one of the function systems of society increases the attractiveness of the symbols and the motives for participation in other function systems. Since at least 1800 it has been observed in many countries that an economic crisis regularly intensifies the attractiveness of higher education in universities and colleges.¹² People either simply “wait” in higher educational institutions until the labor market offers opportunities again or they try to invest in knowledge to improve their chances in economic action contexts. The same phenomenon may be registered regarding political crises. In the United States World War II as well as the Korea War had the effect that for some years there was a significant dip in the male university population. Young men who fought in war could not study at the same time. But during the Vietnam War it was exactly the other way around. There arose a crisis of political legitimacy which meant that young men were no longer willing to fight for their country in a war perceived to be unjust. This led to a spectacular boost of college going rates for young men as college was the best way to escape or at least to defer draft.¹³ A still more extreme phenomenon of the same type possibly was the artistic, intellectual and scientific bloom of Weimar Germany in the midst of a catastrophical economic and political crisis going on with only short periods of normalcy and growth between 1919 and 1933.¹⁴

The other possibility is the transfer of crisis tendencies from one function system to the processes of symbol production and the formation of motives in another function system. This presupposes structured dependencies among the production and valuation of symbols which already are there before the crisis. One example for this might be the interrelation between biomedical publications in the system of science and the fate of pharmaceutical companies in

¹² See for Germany Pfetsch 1974, Ch. 4, Wissenschaftsentwicklung und wirtschaftliches Wachstum in historischer Sicht.

¹³ See the numbers and graphs in Goldin and Katz 2008, 248-251.

¹⁴ In some respects present-day Berlin repeats the same paradox as formulated by its present mayor (Klaus Wowereit): “poor, but sexy”.

the economy. This is a well-known case of a structural coupling between function systems, and it is easily to be seen that a published result regarding the therapeutic efficiency of a certain substance or macromolecule may within a few hours reduce the stock market valuation of a pharmaceutical company by billions or even tens of billions of dollars. This is an instructive case of a really consequential structural coupling between function systems. But one might object that there is no crisis. In science a negative result (the refutation of a hypothesis regarding the efficiency of a substance) is no crisis, but simply normal science.¹⁵ And the same is true for the economy in which the event described induces a crisis only for one company but means an improvement of their situation for the competitors of this company. I come back to this example in the final part of my essay (Ch. IV).

Another test case may be once more the development of schooling and higher education. There is in the 20th century situation a direct symbolic path from the credentials conferred by educational institutions to the language of 'Human Capital' as the substantive resource built up in this way, and finally the economic relevance of the presence or absence of this resource.

In the 20th century one can best study this interrelationship in looking at the American constellation. In the USA one observes a very continuous buildup of secondary schools and higher education from 1890 to 1970.¹⁶ In this eighty year period the average length of schooling of an American male or female rises from 6.5 years to 14 years with a very continuous rate of increase around 0.8 years per decade. In 1890 ca. 3% of an age group succeeded to finish high school. In 1970 it is around 80%.

Over this period of eighty years one might speak of a continuous slight inflation of credentials. This was correlated to a continuously rising economic demand for qualified personnel which means that in this eighty year period one observes salary rises which are relatively evenly distributed over the population. At the same time – and the inflation of credentials is probably the reason behind it – in this period inequality declined in a way it never did before and after this time.

After 1970 there is no further growth of higher education or a growth process which is much slower than it was in the eighty years before (the average length of schooling only grows by 0.5 years in more than thirty years). At the same time an enormous cost inflation arises in American higher education. In the last 25 years consumer prices rose by 100%; health costs by a little bit more than 200% and the average costs of a college education by 440%. That means college becomes too expensive for many Americans; students have to look for paid employment parallel to their academic studies. In the same period graduation rates at American colleges decline. Presently less than 50% of the students who begin a college education finish their studies with a college degree although the wage differentials between students who have

¹⁵ Only in the professionalization theory of Ulrich Oevermann professional work in science is understood as doing work on a crisis (see Oevermann 1996). But then "crisis" is a permanent state of the system which makes from "crisis" a "concept without a difference" ("differenzloser Begriff") in an understanding Niklas Luhmann proposed.

¹⁶ The following is mainly based on the analysis in Goldin and Katz 2008

'some' college only and students who finish college are significant (> 50%).¹⁷ Finally, the enormous costs of college are for many young people a reason not to choose that college which operates on an intellectual level adequate to their talents. This underinvestment in higher education compromises their own future economic chances. The crisis of education to be observed here may be the main reasons for the enormous increase of societal inequalities coming about in the United States after 1970, and it may be one of the reasons why the US loses in economic competitiveness after 1970.

How do we resume this brief sketch which does not claim an adequate or even exhaustive analysis of the American experience in higher education and the economy in the last hundred years. What is remarkable that from the trends I pointed to no clear causal primacy of the economy or the system of higher education is to be derived. The structural coupling of education and the economy looks more like an oscillatory movement of impulses between these two function systems in which in a first period coupled growth processes between these two systems brought about the rise of an extraordinary higher education system and an extremely dynamic economy whereas in a second period we seem to be confronted with coupled crises in both of these systems, crisis tendencies which have not clearly been diagnosed in the case of higher education because of the enormous advantage the USA had achieved in this system around 1970.

IV Ghostwriting

I will conclude my essay with an analysis of a remarkable case of structural coupling which has not been analyzed in a comparative perspective until now. In a well known metaphor I call this phenomenon "ghostwriting". By ghostwriting I mean an operation introduced into a system by a source which is in relevant aspects external to the system and which tries to obscure that it is the author of this operation. It is a "ghost" behind the "writing" appearing in a system, and "writing" means the operative practice from which a system consists.

Ghostwriting in this sense is once more a phenomenon occurring in plural function systems. It is always somehow related to structural coupling (because it is about unknown "authors" of an operation); it sometimes has to do with "corruption" (non-observance of standards the system otherwise proclaims) – and we have to look for a link to function system crises. I will compare some examples.

The most obvious candidate is literature. There it happens very often that someone who has to tell something is coupled to another person who knows *how* to do the telling of the story and by this competence becomes the ghostwriter of the first person.¹⁸ This is a very common

¹⁷ Cf. on these developments Leonhardt 2009a; Leonhardt 2009b.

¹⁸ Cf. Bob Olson: "Ghostwriting is when someone writes something for a client while the client gets the credit for writing it" (<http://www.ofspirit.com/interviews-ghostwriting.htm>).

practice which is normally not tainted by a feeling of illegitimacy. It is more a coupling of experiences and competences both of which are necessary to produce an interesting result.

The situation is different in the film industry in which much “enforced ghostwriting” is going on which often means that the job of working on the script of a film is taken from the original author and given to others who are supposed to change the story in a direction the film director or other core participants want it to go.¹⁹ In this case ghostwriting is an indicator of the collective and collaborative character of film making, an industry in which nobody finally can claim sole authorship for a product. Problems of integrity and of the corruption of standards arise but they are internal to an industry which is often more a service industry than an art form. In the film industry at any point in time there will arise observers who perceive a crisis and a complete loss of standards but on more than one occasion later observers reinterpreted this crisis of the film industry and of the film as art form in an unexpected turn of events as an artistic breakthrough.²⁰

A third important case is “academic ghostwriting” in higher education. In this case there is no legitimacy to it and probably it is not only illegitimate but mostly illegal, too. But nevertheless academic ghostwriters freely advertise their services over the internet and they like to speak towards magazines on their activities, obviously looking at this public speaking as a kind of advertisement for their services. You rarely find articles on academic ghostwriting in the press. But you find these articles in student magazines,²¹ pointing to the probability that students know more about the phenomenon than their professors who are focussed on discovering plagiarism. One does not know the quantitative relevance of academic ghostwriting as there seems to exist no research on it.²²

Does the presence of academic ghostwriting say something about a “crisis” in higher education? The first part of the answer will be negative. The rise of academic ghostwriting tells us something about the societal relevance of higher education. Higher education today is such an important institution that you have to participate in it and even need an academic degree to be able to hope for a successful career in your life. If you are not able to write the thesis you need yourself, there might be good reasons to buy it on a market on which theses written by ghostwriters are offered. And there is at least one other relevant circumstance. Even under the conditions of mass higher education many universities and colleges are not willing to

¹⁹ An interesting example is „The Way We Were” (Sydney Pollack 1973) in which an author (Robert Redford) loses his integrity and his Trotskyist wife (Barbara Streisand) in the moment in which he accepts to do the ghostwriting (going in the direction he is expected to do) on his film script himself. The script for this film by Pollack came from a book by Arthur Laurents who himself had to stop working on “his” film script for some time and only later came back as his temporary substitutes (eleven authors – among them Francis Ford Coppola!) did not succeed to solve the structural problems of the script (Thomson 2008, 957).

²⁰ Cf. on the distaste and revulsion with which “Psycho” was received at first, Durgat 1980, 322-333.

²¹ See recently Fargahi 2010.

²² ‘AcadWrite’ which seems to be the market leader in German speaking countries claims 250 authors and 2.500 customers; Oxbridge Research Group purports to have 2.000 experts from Cambridge University and Oxford University as its collaborators which if it were true should mean that the persons doing the cheating and the persons ratifying the results are sometimes the same persons.

compromise their standards although their population has changed drastically in the last decades. From this results a probability that there are ever more students which never would be able to fulfill the expectations coupled to a classical academic thesis. This is a one more reason why the demand for academic ghostwriting should rise as a side effect of the expansion of and social inclusion into higher education. But at the same time – and that is the second part of the answer to the question for a crisis in higher education – this hypothesis point to a kind of anomy in higher education: a discrepancy between standards maintained and the abilities and competences available for doing something in conformity to the standards. As soon as this discrepancy and anomy endangers the trust in certified results of academic study a serious crisis regarding societal acceptance of the institutions of higher education might result. In these risks may be found the reason why higher educational institutions speak rarely about ghostwriting. They may succeed and they have effective instruments to uncover plagiarism but academic ghostwriting is much more difficult to detect and to prove and therefore it is much more a potential danger for the societal reputation of higher education.²³

I conclude with a last example of ghostwriting which I already pointed to above in some remarks on the interrelationship of publications in science and the stock market valuations of pharmaceutical companies. This coupling has been intensified in the last two decades by financial analysts shifting their focus of observation from the present profit and performance of the companies to the expectations of future profits based on the drug pipeline of pharmaceutical companies. That is, even financial analysts learned to read scientific publications (or at least reports about scientific publications) and to derive from these informations predictions regarding the future of the companies they observe.

Parallel to this arose an industry of “contract research organizations”, who today organize most clinical trial research, “publication planning firms”, who handle the whole biomedical publication process for pharmaceutical companies²⁴ and “medical education and communications companies”, who among other things are intensively involved in the “ghostwriting” of scientific papers.²⁵ These recent developments come on the back of a culture of extensive and extraordinary gift giving²⁶ which for some time already pervades the interface of biomedical science and medical and pharmaceutical firms. The core terms are “ghost management” (of the publication process) and “ghostwriting” of many papers, especially reviews done by writing specialists in communication firms. The finished papers are given to reputed scientists (‘key opinion leaders’) who then publish the papers, often without changing a word and without mentioning the communication firm standing behind such a publication.²⁷

²³ This could instructively be compared to another interesting case of ghostwriting which I will not analyze in this essay: the doping crisis in some professional sports – especially in professional cycling – which in this system, too, often is dealt with in simply not speaking about it (see Alberto Contador).

²⁴ Sismondo 2009 identifies more than 50 firms offering their publication planning services on the Internet, some of them having hundreds of employees.

²⁵ McHenry 2010 cites a survey who identified 182 medical education and communications companies operating in the United States.

²⁶ This is the term Richard Horton uses in Horton 2004.

²⁷ See Singer 2009a; Singer 2009b; McHenry 2010.

There are at least two competing interpretations of this. One interpretation points to the increasingly collaborative character of the process of research and publication (similar to what we said about the film industry). This implies a new definition of authorship. The author now primarily confers his scientific authority on a result which has been prepared and produced by many others.²⁸ The alternative view stresses the secrecy of many aspects of the process and the money involved in it.²⁹ In this view especially scientific ghostwriting destroys scientific integrity and substitutes for it strategies of deceiving as well medical practitioners as medical patients with often catastrophic outcomes in terms of therapeutical results. Therefrom a crisis of medical credibility is supposed to arise.

There is a third function system involved in these interactions: This is the function system of law. Especially in the United States litigation often arises from the experience of unsuccessful medical treatments, and besides there are sometimes competitors of pharmaceutical companies going the way of litigation regarding claims of effectiveness made by others. Most of what we now know about the shady sides of medical ghostwriting comes from evidence which was presented in such legal contexts.³⁰ Critical writers on medical ghostwriting today are sometimes consultants of law firms which may mean that financial interests are involved on both sides of a controversy.

There is undoubtedly the risk of a crisis of scientific credibility implicated in these practices of biomedical ghostwriting. And in this case we have significant evidence of changing crisis perceptions in another function system (the financial observation of the prospective futures of pharmaceutical companies) being behind new practices in science which could devalue the symbols and standards constitutive for the system of science. Therefore we see something about probabilities of crisis induced by changing risk perceptions in another function system of present-day society.

²⁸ Sismondo 2009 comes near to this view.

²⁹ See Gale 2003, 540-1: „An expert is hired for his opinion. The expert clinician moves too easily across the invisible divide between opinion and advocacy. His value lies in his reputation for independence and integrity, but these qualities cannot be marketed without the risk of compromising them. There is too much secrecy at the interface of industry and academic medicine and too much money going across it.”

³⁰ There are other sources. Brendan Borrell (Borrell 2009) reports on a journal editor who found unnamed, additional authors of scientific papers via the metadata incorporated into Word files. But at the same time this editor states that in more recent papers work has often been done on the metadata saying something about the secrecy preferred by the communication specialists of companies.

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