

# TOWARDS A GENERAL THEORY OF FUNCTION SYSTEM CRISES

*Rudolf Stichweh*  
*University of Lucerne*

## **I. FUNCTIONAL DIFFERENTIATION AND ECONOMIC CRISES**

In contemporary sociological research and theorising, a certain acceptance of the idea of functional differentiation is to be observed.<sup>1</sup> 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 chapter, 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 chapter 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, sports, the mass media, and the health/illness complex. 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 as to how they normally operate and what the operations and procedures characteristic of them actually are. But mainly, there are no theories about those disturbances of operations which one might call a function system crisis. Clearly, 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

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<sup>1</sup> See, for a recent debate on the prevalence of functional differentiation, Richard Münch, “Die Weltgesellschaft im Spannungsfeld von funktionaler, stratifikatorischer und segmentärer Differenzierung”, in: Gert Albert & Steffen Sigmund (eds.), *Soziologische Theorie kontrovers* (Special issue, KZfSS) (Wiesbaden: Verlag für Sozialwissenschaften, 2010), and Rudolf Stichweh, “Funktionale Differenzierung der Weltgesellschaft”, in: *ibid.*

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 theorising on what a crisis in a specific functional domain means for all the other function systems in a functionally-differentiated world 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 pre-eminence 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 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, leprosy), that is to say, by crises of health that had a significant influence on all the other realms of social life. And the Reformation means not just the emergence 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 impact on other functional contexts from art and science to politics and the economy. Clearly, these two cases differ greatly: in the case of late medieval epidemics, we primarily have to deal 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 upon the environmental impact on a society which is not protected by adaptive (health) institutions of its own.<sup>2</sup> 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 chapter 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 proneness to crisis (Section II). It would also have to look at the structural couplings between function systems in order to be able to understand the

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<sup>2</sup> 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 Charles C. Mann. *1491. New Revelations of the Americas Before Columbus*. (New York: Vintage Books, 2006).

mechanisms which transfer the consequences of crises to other function systems (Section III). Finally, we will study “ghostwriting” as a mechanism which may induce crises by coupling the operations of a system to extraneous sources (Section IV).

## **II. ELEMENTS OF A THEORY OF FUNCTION SYSTEM CRISES**

### **II.1. Core Dimensions of Function Systems**

The first hypothesis for which I wish 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 can afterwards be specified and historicised by 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 included 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 analysing three examples:

#### *1. Constitutive symbols*

All function systems are based upon symbols, which are 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 only one class of constitutive symbols in a concrete function system. There may arise plural forms of symbolisation.

#### *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. Social processes by which these motivations are both brought about and are regulated probably exist. Therefore, motives are only secondarily states in psychic systems. Primarily, they belong to a cultural repertoire of motives, which is transformed in processes of socio-cultural evolution.

#### 4. *Integrity and corruption of standards*

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

#### 5. *Inflation and deflation of symbols*

One prominent manifestation of crises in function systems consists of the 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 which are relevant in every function system, and 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 generalised pre-condition of influence.

### **II.2. Higher Education as a Case**

One first illustration that I will try out consists of an application of this analytical schema to the system of higher education. Although higher education is not a function system in its own right, it is an ever more prominent sub-system of the global function system of education. For the first time in history, higher education has become a major social system in the last fifty years, including, since around the year 2000, more than 100 million people, which is two hundred times the number of a hundred years earlier.<sup>3</sup>

The constitutive symbols of higher education (Component 1 in Ch. II.1) are partly substantive, partly formal. There are, on the one hand, educational ideals or symbols which connect the operations of higher education with an anticipated way of life by symbolising 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,

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<sup>3</sup> See Evan Schofer & John W. Meyer, “The Worldwide Expansion of Higher Education in the Twentieth Century”, (2005) 70 *American Sociological Review*, pp. 898–920; John W. Meyer & Evan Schofer. “The University in Europe and the World”: Twentieth Century Expansion”, in Georg Krücken, Anna Kosmützky & Marc Torca (eds.), *Towards a Multiversity? Universities Between Global Trends and National Traditions* (Bielefeld: Transcript, 2007), pp. 45-62.

the formal, quantitative symbols of success in higher education: admission, inclusion, credits, grades, degrees, and certificates. Both types of symbols have to be connected to standards which regulate the ascription and distribution of symbols (Component 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 obtain 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 mixture (Component 3). Higher education systems can be based upon a strong belief in the integrity of its standards (Component 4), or they can be 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.<sup>4</sup> From the interaction of these different aspects of the production and distribution of constitutive symbols, inflationary or deflationary processes in systems of higher education can follow (Component 5) and it seems plausible that these inflationary or deflationary processes are an adequate operationalisation of what a crisis in higher education may mean.<sup>5</sup> And it can easily 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 upon 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*,<sup>6</sup> which is an ethnographic study of a village in *Campania* in 1955, there is an interesting story about local inhabitants who believe that a firm patron/client-link exists between God/Jesus and the local priest. Therefore, normal people have nothing to expect from God/Jesus, and

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<sup>4</sup> See Oana Dan, “Diplomas of Private University Grads Stamped as Illegal”, (2009) *Evenimentul zilei*, July 15, available at: <http://www.evz.ro>. Many other corrupt practices exist in other university systems - see Section IV on thesis ghostwriting.

<sup>5</sup> A similar theory was first proposed by Talcott Parsons & Gerald M. Platt, “Dynamic Process in the University System: The Nature of the Crisis”, in: *The American University*, (Cambridge MA: Harvard University Press, 1974), pp. 304-345.

<sup>6</sup> Edward C. Banfield, *The Moral Basis of a Backward Society*. (New York: Free Press, 1958), pp. 123-126.

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 deal with symbols which are constitutive of a specific functional sphere, and we need a well-controlled process of the quantitative expansion of symbols both to support and to allow growth and inclusion processes in the respective functional sphere. Roman Catholicism no longer produces angels, as far as I know.<sup>7</sup> But it has intensified the production of saints in recent times.<sup>8</sup> For fifteen hundred years, Catholic saints were primarily a local or regional phenomenon. From 1592, the canonisation of saints definitely became a global decision-process in which, after a complicated procedure, the final decision is taken by the pope himself. From 1592 to 1846, only 64 new saints were made; to these 70 were added until 1903; from 1903 to 1963, a further 77 were created. 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 deal with the production of saints for a World Church in a new, more inclusive understanding of this term.<sup>9</sup> Paul VI adds 84 saints in 15 years; and John Paul II canonises 482 saints in 27 years, which is a significantly bigger number than had been consecrated in the preceding 400 years (Component 1).

There are strict procedures and standards in such a canonisation 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 into miracles (which have to have been effected by the prospective saint after his or her death) and which function as the most important condition for canonisation (Component 2).

Furthermore, you need motives among the population for having new saints. These motives play a strong role in the canonisation process. They are institutionalised in the form of a certain type of fame (*fama sanctitatis*), which has to exist for some time and by which

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<sup>7</sup> 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 Seventeenth and Eighteenth century High Andes there is an interesting analysis in Fernando Valenzuela, *Painting as a Form of Communication in Colonial Central Andes: Variations on the Form of Ornamental Art in Early World Society*. Ph.D. Dissertation, University of Lucerne, 2009.

<sup>8</sup> These and the following data are taken from the very interesting article of Agathe Bienfait, “Zeichen und Wunder. Über die Funktion der Selig- und Heiligsprechungen in der katholischen Kirche”, (2006) 58 *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, pp. 1-22.

<sup>9</sup> See, on *Vaticanum II* and its communicative inclusion effects, Bernhard Fresacher, *Kommunikation. Verheissungen und Grenzen eines theologischen Leitbegriffs*, (Freiburg i.B: Herder, 2006), Ch. II.

someone is already respected and worshipped as a saint long before this status is formally conferred on him or her. This 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 *fama*, which functions as a pre-condition, is an interesting instrument of equilibrating the supply and demand of saints - by neither making unnecessary saints, nor by denying the status to someone whom many people think that he or she deserves it (Component 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 that John Paul II canonised 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, Japan and Poland follow, 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 far as we know, no corruption of standards accompanied this expansion of the production of saints (Component 4). “Inculturation” functions as the model which allows a cultural diversity of production conditions for saints without necessarily falling prey to corrupting compromises. If this is true and if we take into account that this production of symbols of sanctity accompanies the growth and the globalisation 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. Thus, this story is not a crisis story, but a story of a strongly hierarchical organisation which succeeds in steering its own growth process in a way which prevents inflation and deflation.

#### **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 enables us to make use of the list of elementary constituents of system processes given here. And, with 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 of 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 figures referring to the economic

discontinuities between 1929 and 1933. In these four years, the real Gross Domestic Product (GDP) of 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.<sup>10</sup>

Behind this economic and financial crisis, which had repercussions in all the other function systems of society, there were, possibly, two major factors. First, after World War I, the most important political powers never succeeded in finding a solution to the two main sources of debt: reparations (in the case of Germany) and war credits (in the case of Great Britain and France). From this, an over-indebtedness resulted which, in the German case, first led to the catastrophic hyper-inflation of the early 1920s and then, in 1928/9, after the German return to a fixed parity to the impossibility of re-financing short-term debt (after a rise in the American interest rate) and finally to the default of the German state. This first major factor (the inability to solve the debt problem) 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.<sup>11</sup> 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 was never the case after 1918. The fixed parity to gold made it impossible to devalue currencies in the Great Depression and the slide into deflation in all the major economies after 1929 resulted from this. And the imbalance in the distribution of gold (too much gold flowing to the USA) was one of the main reasons for the American federal bank to maintain 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 analyse more precisely the transfer of functional crises to other function systems. In a first approximation,

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<sup>10</sup> These numbers in Liaquat Ahamed, *Lords of Finance. The Bankers Who Broke the World*, (New York: The Penguin Press, 2009), p. 497.

<sup>11</sup> On this, see Barry Eichengreen, *Golden Fetters. The Gold Standard and the Great Depression 1919 – 1939*, (Oxford-New York: Oxford University Press, 1995) and Ahamed, note 10 *supra*.



we will postulate that, between function systems, there is often an interruption of the interdependencies to be observed. If this is the case, a crisis in one of the function systems of society may arise, without any consequences in other specific 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 the year 1800, at least, it has been observed in many countries that an economic crisis regularly intensifies the attractiveness of higher education in universities and colleges.<sup>12</sup> People either simply “wait” in higher educational institutions until the labour market offers opportunities again, or they try to invest in knowledge in order to improve their chances in economic action contexts. The same phenomenon may be registered with regard to political crises. In the United States, World War II as well as the Korea War had the effect that there was a significant dip in the male university population for some years. 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 had the consequence that young men were no longer willing to fight for their country in a war that was perceived to be unjust. This led to a spectacular boost of college-going rates for young men as college was the best way of escaping or, at least, of deferring the draft.<sup>13</sup> A still more extreme phenomenon of the same type can possibly be found in the artistic, intellectual and scientific flourishing of the Weimar Republic in the midst of a catastrophic economic and political crisis going on with only short periods of normality and growth between 1919 and 1933.<sup>14</sup>

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 pre-supposes structured dependencies among the production and evaluation of symbols which are already present before the crisis. One example of this might be found in the interrelation between biomedical publications in the system of science and the fate of pharmaceutical companies in the economy. This is a well-known case of a structural coupling

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<sup>12</sup> See, for Germany, Frank R. Pfetsch, *Zur Entwicklung der Wissenschaftspolitik in Deutschland, 1750-1914*, (Berlin: Duncker & Humblot, 1974), Ch. 4, “Wissenschaftsentwicklung und wirtschaftliches Wachstum in historischer Sicht”.

<sup>13</sup> See the numbers and graphs in Claudia Goldin & Lawrence F. Katz, *The Race between Education and Technology*, (Cambridge MA-London: The Belknap Press of Harvard University Press, 2008), pp. 248-251.

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

between function systems, and it can easily be seen that a published result regarding the therapeutic efficiency of a certain substance or macro-molecule may reduce the stock market valuation of a pharmaceutical company within a few hours 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.<sup>15</sup> And the same is true for the economy, in which the event described induces a crisis only for one company, but means an improvement in the situation of the competitors of this company. I will return to this example in the final part of this chapter (Section IV).

Another test case may again be found in the development of schooling and higher education. There is, in Twentieth century thinking, 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 Twentieth century, one can best study this inter-relationship by looking at the American constellation. In the USA, one can observe a very continuous build-up of secondary schools and higher education establishments from 1890 to 1970.<sup>16</sup> 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, *circa* 3% of an age group succeeded in finishing high school. In 1970, the figure is around 80%.

Over this period of eighty years, one might speak of a continuous slight inflation of credentials conferred by educational institutions. This was correlated to a continuously rising economic demand for qualified personnel, which means that, in this eighty-year period, one observes increases in salary which are relatively evenly distributed throughout the population. At the same time - and the inflation of credentials is probably the reason behind it - inequality declined in this period in a way that it never did before or after this time in the United States.

After 1970, there is no further growth of higher education or there is only a growth process which is much slower than it was in the preceding eighty years (the average length of

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<sup>15</sup> Only in the professionalization theory of Ulrich Oevermann professional work in science is understood as doing work on a crisis; see Ulrich Oevermann, “Theoretische Skizze einer revidierten Theorie professionalisierten Handelns”, in: Arno Combe & Werner Helsper (eds), *Pädagogische Professionalität. Untersuchungen zum Typus professionalisierten Handelns*, Frankfurt a.M.: Suhrkamp Verlag, 1996), pp. 70-182. 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.

<sup>16</sup> The following is mainly based on the analysis in Goldin & Katz, note 13 *supra*.

schooling only grows by 0.5 years in more than thirty years). At the same time, there is an enormous rise in the cost of 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%. This means college becomes too expensive for many Americans, and students have to look for paid employment parallel to their academic studies. In the same period, graduation rates (Bachelor diplomas) at American colleges decline. At present, 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 attend “some” college only, and students who finish college are significant (> 50%).<sup>17</sup> Finally, for many young people, the enormous costs of college are a reason not to choose the college which operates on an intellectual level adequate to their talents. By this personal under-investment in higher education students compromise 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 which occurred 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 to be an adequate or even an exhaustive analysis of the American experience in higher education and the economy in the last hundred years? What is remarkable is that, from the trends that I have 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 been clearly diagnosed in the case of higher education because of the enormous advantage which the USA had achieved in this system at around 1970.

#### **IV. GHOSTWRITING**

I will conclude this chapter with an analysis of a remarkable case of structural coupling which has not been analysed 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

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<sup>17</sup> See, on these developments, David Leonhardt, “Colleges are failing in Graduation rates, *New York Times*, September 9, 2009, p. B1; *idem*, “The Way We Live Now. The College Calculation”, *New York Times*, September 27, 2009, p. MM13.

obscure the fact that it is the actual author of this operation. It is a “ghost” behind the “writing” appearing in a system, and “writing” means the operative practice of which a system consists.

Ghostwriting, in this sense, is again a phenomenon which occurs in plural function systems. It is always somehow related to structural coupling (because it is about the unknown “authors” of an operation); it sometimes has to do with “corruption” (non-observance of standards that 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 very often occurs 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.<sup>18</sup> This is a very common 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 which the film director or other core participants want it to go.<sup>19</sup> In this case, ghostwriting is an indicator of the collective and collaborative character of film-making, an industry in which nobody can claim the sole authorship for a product in the end. Problems of integrity and of the corruption of standards do 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 be observers who perceive a crisis and a complete loss of standards, but, on more than one occasion, successive observers have re-interpreted this crisis of the film industry and of the film as an art form in an unexpected turn of events as an artistic breakthrough.<sup>20</sup>

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<sup>18</sup> See Bob Olson: “Ghostwriting is when someone writes something for a client while the client gets the credit for writing it”, (available at: <http://www.ofspirit.com/interviews-ghostwriting.htm>).

<sup>19</sup> An interesting example is the film “*The Way We Were*”, (Sydney Pollack, 1973) in which an author (Robert Redford) loses his integrity and his Trotskyist wife (Barbara Streisand) at the moment in which he accepts to do the ghostwriting (going in the direction that investors expect him to do) on his film script himself. The script for this film by Pollack came from a book by Arthur Laurents who himself for some time lost the control over “his” film script and only later came back as his temporary substitutes (eleven authors - among them Francis Ford Coppola!) did not succeed in solving the structural problems of the script (David Thomson, “*Have You Seen ...?*” *A Personal Introduction to 1,000 Films*, (New York: Alfred A. Knopf, 2008), p. 957).

<sup>20</sup> See, on the distaste and revulsion with which “*Psycho*” was received at first, Raymond Durnat, *The Strange Case of Alfred Hitchcock, or The Plain Man's Hitchcock*, (Cambridge MA: The MIT Press, 1980), pp. 322-

A third important case is that of “academic ghostwriting” in higher education. In this case, there is no legitimacy to it, and probably it is not only illegitimate but mainly illegal, too. But, nevertheless, academic ghostwriters freely advertise their services on the internet and they like to give interviews on their activities to magazines, clearly looking at this as a kind of advertisement for their services. You rarely find articles on academic ghostwriting in the press, but you do find these articles in student magazines,<sup>21</sup> 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 no research seems to exist on it.<sup>22</sup>

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 that 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 compromise their standards even though their population has changed drastically in the last decades. From this, there arises a probability that there are ever more students who would never be able to fulfil the expectations coupled to a classical academic thesis. This is 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 this is the second part of the answer to the question regarding a crisis in higher education - this hypothesis points to a kind of anomie in higher education: a discrepancy between the standards maintained and the abilities and competences available for doing something in conformity with the standards. As soon as this discrepancy and anomie endangers the trust in the certified results of academic study, a serious crisis regarding the societal acceptance of the institutions of higher education might result. In these risks may be found the reason why higher educational institutions rarely speak about ghostwriting. They

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<sup>21</sup> See, recently, Nina Fargahi, “Musenkuss vom Geist”, (2010) 31 *Studiversum*, pp. 24-26.

<sup>22</sup> “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, means that the persons doing the cheating and the persons ratifying the results are sometimes the same persons.

may succeed and they have effective instruments to uncover plagiarism, but academic ghostwriting is much more difficult to detect and to prove and is, therefore, a much greater potential danger for the societal reputation of higher education.<sup>23</sup>

I conclude with a last example of ghostwriting, which I already pointed to above in some remarks on the inter-relationship 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 upon the drug pipeline of pharmaceutical companies. That is to say, even financial analysts learned to read scientific publications (or, at least, reports about scientific publications) and to derive from the information contained within some predictions regarding the future of the companies that they observe.

Parallel to this, an industry of “contract research organisations” emerged, which today organises most clinical trial research, “publication planning firms”, which handle the whole biomedical publication process for pharmaceutical companies,<sup>24</sup> and “medical education and communications companies”, which are, among other things, intensively involved in the “ghostwriting” of scientific papers.<sup>25</sup> These recent developments come on the back of a culture of extensive and extraordinary gift-giving<sup>26</sup> which, for some time, has already pervaded 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 that is behind such a publication.<sup>27</sup> There are at least two competing interpretations of this. One

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<sup>23</sup> 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).

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

<sup>25</sup> Leemon McHenry cites a survey which identified 182 medical education and communications companies operating in the United States; see *idem*, “Of Sophists and Spin-Doctors: Industry-Sponsored Ghostwriting and the Crisis of Academic Medicine”, (2010) 10 *Mens Sana Monographs*, pp. 129-145.

<sup>26</sup> This is the term Richard Horton uses in “The Dawn of McScience”, (2004) 51 *New York Review of Books*, pp. 7-9.

<sup>27</sup> See Natasha Singer, “Medical Papers by Ghostwriters Pushed Therapy”, *New York Times*, August 5, 2009, p. A1; *idem*, Senator Moves to Block Medical Ghostwriting. *New York Times*, August 19, 2009, p. B1; McHenry 2010.

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 or her scientific authority on a result which has been prepared and produced by many others.<sup>28</sup> The alternative view stresses the secrecy of many aspects of the process and the money involved in it.<sup>29</sup> In this view, scientific ghostwriting, in particular, destroys scientific integrity and substitutes it with strategies of deceiving both medical practitioners and patients, often with catastrophic outcomes in terms of therapeutical results. From this, 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. In the United States, in particular, litigation often arises from the experience of unsuccessful medical treatments, and sometimes the competitors of pharmaceutical companies opt for litigation with regard to the claims of effectiveness made by other companies. Most of what we now know about the shady sides of medical ghostwriting comes from the evidence which was presented in such legal contexts.<sup>30</sup> Critical writers on medical ghostwriting today in some cases are the consultants of law firms, which may mean that financial interests are involved on both sides of the controversy.

There is undoubtedly the risk of a crisis of scientific credibility implied in these practices of biomedical ghostwriting. And, in this case, we have significant evidence of changing crisis perceptions in another function system (the changeover in financial analysis to the critical evaluation of the prospective futures of pharmaceutical companies) which underlies new practices in science, which could devalue the very symbols and standards that are constitutive of the system of science. As a result, we can see something about the probabilities of a crisis in science being induced by changing risk perceptions in another function system of present-day society.

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<sup>28</sup> Sergio Sismondo comes near to this view in: "Ghosts in the Machine: Publication Planning in the Medical Sciences", (2009) 39 *Social Studies of Science*, pp. 171-198.

<sup>29</sup> See Edwin A.M. Gale, "Between Two Cultures: The Expert Clinician and the Pharmaceutical Industry", (2003) 3, *Clinical Medicine*, pp. 538-541, at 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."

<sup>30</sup> There are other sources. Brendan Borrell ("Using Forensics to Reveal Medical Ghostwriting"; available at: <http://www.reuters.com/article/idUSTRE58A3BC20090911>) 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.