

Science as Craft

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Review Essay:

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Abstract: On the basis of culturally historical reconstructions, Richard SENNETT outlines in "The Craftsman" an alternative idea to the flexibility of new capitalism, which he criticized in his former writings. Here he examines criteria and conditions of good work based on the model of craft, although his understanding of work is broad and ultimately embraces the conduct of life in general. The essay sets SENNETT's vantage point for this alternative concept as an "intimate connection between hand and head" (p.9) before defining the essential varieties and characteristics of craftsmanship and discussing these in the context of good research work (their conditions in general and the practice of research workshops in particular). SENNETT's thinking proves inspiring, though some questions remain that are assembled at the end of the essay, regarding differentiations in craftsmanship, his understanding of "labor," the societal success of alternative practices, and the relationship between process and result/usefulness.

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1. Craft, Labor, Science

In Germany, it is quite common to allude to the crafts when referring to the research process: we speak of the "academic tools of the trade" [*wissenschaftliches Handwerkszeug*]; in "qualitative"¹ social research, "research workshops" [*Forschungswerkstätten*] have evolved into a permanent institution; and data is frequently referred to as "material." Such usage of language is thus conducive to an interpretation of research work as craftsmanship. But what are the underlying notions of craft and workshop that render them suitable models for scholarly work? Richard SENNETT's book "The Craftsman" has provided a sound basis for thinking about this question along lines informed by historical-cultural

1 I have questioned the common distinction drawn between qualitative and quantitative elsewhere (see LORENZ, 2009). Since it nevertheless remains a widely employed basic distinction, I will use it as well but set the term "qualitative" in quotation marks.

analysis with an eye to the implications for the present. SENNETT encourages adopting such a perspective in that he proposes a very broad conception of craftsmanship, which he even takes as measure for good work in general. Craftsmanship is introduced accordingly as "the desire to do a job well for its own sake" (p.9). Skilled craft can thus involve playing a musical instrument, designing a building, writing or creating art, developing software, or the work done at a laboratory, hospital, or construction site. In the concluding chapter, SENNETT even enters "The Philosophical Workshop" (p.286). [1]

This wide conception, however, is quite ambivalent since craftsmanship may now appear far too general to be meaningfully applied to scholarship. SENNETT adds to this impression in that he expands the notion of work almost infinitely to even embrace such practices as parenting or citizenship. Ultimately, he is concerned with the more general question of *technique*—the technique of how to conduct life with skill (pp.8, 11). Conversely, his approach also suggests a specific view of science. In this conception, science is not in the first instance conceived as an autonomous, independent endeavor that follows a logic of its own, but is perceived as a social practice among others. It is not opposed to those other practices but is inextricably tied to them. SENNETT's key concern is to demonstrate the unity of head and hand, thinking and doing, reflection and action, culture and nature. In his analysis of contemporary society, he perceives such strict divisions as a source of social problems. At this point his diagnosis intersects with that of other authors such as Zygmunt BAUMAN (1991) or Bruno LATOUR (1993 [1991]). Put pointedly, "When the head and the hand are separate, it is the head that suffers" (p.44). [2]

In the field of "qualitative" research, we can expect an understanding of research and scholarship to meet widespread acceptance that refuses to view the academic endeavor as fundamentally distinct from (any other) social practice in general. Strict divisions tend to be the exception (see, for instance, the "categorical difference" postulated by OEVERMANN, 2000). This proximity to the "qualitative" paradigm is partly due to the fact that SENNETT draws on the philosophical tradition of pragmatism (particularly pp.286ff.), which has also influenced large parts of "qualitative" research. Including other practices, of course, does not necessarily equal abandoning social constructivism. As SENNETT indeed moves beyond social constructivism, he finds himself in the company of a number of approaches in the social sciences that are concerned with (re-)introducing the material dimension of social relations into their analyses. Although this is by no means a new endeavor (see, for instance, GROß, 2006), it is certainly one that has gained additional relevance in recent years, not least in light of climate change (see VOSS, 2010). [3]

The wealth of ideas and the abundance of material that SENNETT draws on and lays out across 300 pages demand that the review limit itself. Even more so since the review has a specific aspect in mind: "science as craft," which is more a particular case of applying SENNETT's ideas rather than a central concern of the book itself. Thus, I will first outline the issues SENNETT himself devotes attention to (Section 2). Then, I will sketch various historical conceptions of craft—one of

which SENNETT favors, namely that of the Enlightenment—and go on to assemble the defining attributes of this particular notion of craft (Section 3). In a next step, I will focus attention on the main setting where craftwork is performed: the workshop (Section 4). This will lay the groundwork for a discussion of the conditions of good scientific work (Section 5) and allow to raise questions that SENNETT fails to answer (Section 6). [4]

It needs to be mentioned that "The Craftsman" is the first volume of a trilogy. The two volumes to come are titled "Warriors and Priests" (dealing with issues of ritual and aggression) and "The Foreigner" (concerned with the changes required for coming to grips with environmental issues, which presupposes adopting a perspective similar to the self-displacement and estrangement experienced by the foreigner to gain a fresh view of current trends) (pp.8ff.). "The Craftsman," as the first of the three volumes, aims to lay the groundwork for a study of material culture that pays particular attention to practices and techniques, as encountered in military and religious rituals that underlie the industrial threat to the environment, also including the new "techniques of environmental craft" (p.13). [5]

2. SENNETT's Issues of Concern

SENNETT seeks to derive the human potential for thought and action from physical activity and experience, the making of and dealing with things. Instead of a sharp division between physical labor and mental reflection, he perceives continuity. For thinking, he argues, is not only an integral part of work but is also a result of the working process. He therefore concludes that *good work is a prerequisite for good thinking and a more humane and also more democratic form of social community*. Craftsmanship is viewed as exemplifying this relationship and is thus chosen as the object of study for this reason. [6]

SENNETT is of course aware of the objections to be reckoned with and begins by addressing the most obvious arguments against such a view. The study commences with the problems associated with (crafting) seemingly valuable things, which have been observed since ancient times and passed on through generations as in the myth of PANDORA (and her box): the initially appealing may turn out to have a destructive impact. He places this observation in a more current context by referring to the installation of concentration camps or the development of the atomic bomb. According to Hannah ARENDT's analysis, concentration camps were the product of a "job well done" in the sense of the banality of evil. In developing the atomic bomb, issues of technical realization were at the center of attention. Only once its vast potential for mass destruction was unleashed did Robert OPPENHEIMER and others face the question of how it ought to be used—a question to which they could provide no satisfying answer. Today, SENNETT argues, it is the environmental crisis that, to an alarming degree, brings to the forefront the problems caused by how we make and use things. This may inspire the idea that creating things requires an external corrective, which, according to SENNETT, his teacher ARENDT sought in speech and public deliberation. In the light of persistent and even much greater levels of problems SENNETT now, "In my old age," as he puts it (p.8), wants to answer

the question raised by his teacher and bridge the gap between physical labor and ethical thought and communication; we might speak of a search for *inner* correctives. He is convinced that "fine cloth or food cooked well enables us to imagine larger categories of 'good.'" (p.8). [7]

In later sections (p.21, 291), he refers to HEPHAESTUS, the "craftsman" among the Greek gods, thus evoking another ancient image that to some extent plays an opposite role to PANDORA. Whereas PANDORA's gifts are tempting yet bear the seed of disaster, HEPHAESTUS is the one who creates things for the collective good ("the craftsman as a bringer of peace and a maker of civilization," p.21) but who is marked by the stigma of deficiency (HEPHAESTUS suffered from a clubfoot). SENNETT recommends that craftsmanship no longer be held in low regard or stigmatized, in which case we also need no longer fall for the temptations of technology. In other words, regard for the good (HEPHAESTUS) is a more promising path toward a more humane society than the never-ending pursuit (PANDORA) of the best and the excellent. [8]

Craftsmanship, therefore, provides a terrain for demonstrating the links between head and hand, hence pointing the way toward achieving "a more humane material life" (p.8). He thus goes far beyond his former work. His most recent work centered on "The culture of the new capitalism" and the celebrated trends of flexibilization that it has given rise to (SENNETT, 1998, 2006; cf. SPETSMANN-KUNKEL, 2007). He was among the voices to express criticism of modern society in general and capitalism in particular at the close of the past century, for instance, on grounds of consumerism (BAUMAN, 2000), acceleration of temporal structures (ROSA, 2005), or the new network- and project-based spirit of capitalism (BOLTANSKI & CHIAPELLO, 2005). Taking a step beyond his critical analysis of the modern era, his reconstruction of "craftsmanship" is an outline of an *alternative* in which he places greater emphasis on commonalities than on differences: He advocates *good* work for and by the many over an obsession with the allegedly *outstanding* performance by a few. Of course, there have been predecessors to such advocacy, which SENNETT fails to make reference to. In the early 1970s, Ivan ILLICH (1990 [1973]) voiced criticism (and made predictions) along similar lines² while he embarked on a search for more humane—he spoke of *convivial*—"tools" (including institutions). Although such a diagnosis might be suited to expose the short memory of some contemporary social analyses, historical myopia is an objection that misses its target in SENNETT's case. Undeniably, he takes his readers on an excursion through the world of thought revolving around craftsmanship, its proponents, opponents, and the models it has been based upon dating back to ancient Greece. [9]

One might object that the alternative offered by SENNETT raises problems in terms of the generalized notion of work underlying his concept of craftsmanship.

2 "In a society caught up in the race for the better, limits on change are experienced as a threat. The commitment to the better at any cost makes the good impossible at all costs. [...] What people have and what they are about to get are equally exasperating to them. Accelerating change has become both addictive and intolerable. At this point the balance among stability, change, and tradition has been upset; society has lost both its roots in shared memories and its bearings for innovation." (ILLICH, 1990 [1973], p.75)

Good work and more favorable working conditions may of course be desirable. Yet, once the boundaries between work and leisure are torn down, we also give up any protection against the demands emanating from the work we do, no matter how interesting and enjoyable it might be. SENNETT takes a clear stance against such reasoning. He agrees with C. Wright MILLS—although he concedes that MILLS "seems impossibly idealistic"—that "work is connected to the freedom to experiment; finally, family, community, and politics are measured by the standards of inner satisfaction, coherence, and experiment in craft labor" (p.27). Evidently, SENNETT does not see the alternative in harnessing the "wage-labor society" (CASTEL, 2003) by way of regulation. Inspired by craftsmanship, his alternative is the search for a "third" option, which then must make an even more convincing case for not simply falling between the two stools of regulation, on the one hand, and flexibilization, on the other. [10]

Adopting SENNETT's perspective, we would be mistaken to view craftsmanship as a solution in any simple sense to the above-mentioned dramatic problems arising from how we make and deal with things, to the point of an environmental crisis by which society endangers its own survival. SENNETT elaborates in detail the threats that remain even in the wake of a turn to craftsmanship since this does not mean that we will not cease to make "things." Rather, the mindset of the craftsman has the merit of keeping alive an awareness of the existence of problems as opposed to a disposition that presents each solution attached with the promise of representing a better one *per se*. For craftspeople, problem solving is at the same time problem finding. Incompleteness, patience, thoroughness, and recursively relating the new to the old, innovation to experience, and solutions to problems are attributes that, in SENNETT's eyes, define good craftsmanship. In this respect, the way is largely the goal, at least the way in which craftwork is done cannot be separated from the goals that are pursued. [11]

Apart from ethical issues and issues of contemporary social analysis, the relation between head and hand, speech and physical labor raises both methodological and practical research problems. SENNETT writes, "Every good craftsman conducts a dialogue between concrete practices and thinking" (p.9). But what does this mean precisely? Whereas "dialogue" suggests that the act of conducting physical labor takes on a "social" nature, that a process of "speaking" with objects and bodily movements is taking place, SENNETT repeatedly stresses that we are only insufficiently capable of verbalizing what occurs in the process of working, which thus gives greater weight to the physical at the expense of the social: "[...] what we can say in words may be more limited than what we can do with things. Craftwork establishes a realm of skill and knowledge perhaps beyond human verbal capacities to explain" (p.95). This poses a problem especially in situations where knowledge is to be conveyed or skills are to be taught and acquired. One could easily engage in lengthy elaborations as to the consequences of such a perspective for empirical research in the social sciences, which largely relies on documentations of spoken or written language. Thus, we may assume it to be no coincidence that, at a time when issues of materiality are increasingly being discussed in the social sciences, debates on "visual

methodology" are also gaining ground. DIDEROT's *Encyclopædia* already made use of this remedy: "One solution to the limits of language is to substitute the image for the word" (p.95). In the chapter devoted to "Expressive Instructions" (p.179), SENNETT explores the potential that language might nevertheless hold in store for coming to terms with these problems. [12]

Referring to a number of examples, he pursues a more fundamental methodological option—in greatest detail probably in the chapter "The Hand" (p.149)—in which he attempts to show *how the hand thinks*. Similar to LATOUR (1999), SENNETT traces the many interim steps that are easily forgotten or neglected when we assume the realm of the body as separate from that of the mind. The minute movements, the interplay of certain bones and muscles, the act of practicing routine procedures and actions, time and again, constantly (dialogically) correcting and refining them, entwine head and hand in ways that make the idea of separate realms seem absurd. [13]

3. Variations and Attributes of Craftsmanship

SENNETT directs attention to a number of different crafts which he addresses in detail, ranging from brickmaking via goldsmithery and glass blowing to making musical instruments and weaving. He traces the historical evolution of such crafts, their techniques and tools over thousands of years, and examines the regard or disregard shown for craftwork during different periods. Historical comparison reveals variations in the perception of craftsmanship. SENNETT sees the most significant ruptures, viewed from the perspective of contemporary society, as occurring during the Renaissance, as the artist's studio evolved out of the guild workshop (see Section 4 below) and in the period of industrialization with the emergence of machinery. [14]

According to SENNETT, ancient heroic motifs of divine crafts also "appear in Nazi and Soviet kitsch art as titans of the forge or the plow" (p.94). The ambivalence that is the theme of PANDORA also surfaces during the Christian Middle Ages. While the work of the craftsman stood for leading a life pleasing to God ("Christ was the son of a carpenter." p.55), the focus on making material things also bore the risk of leading away from the spiritual path. Craftspeople later became artists, advocates of Enlightenment, and the romantic antithesis to industrialization, and yet, "From the origins of classical civilization, craftsmen have suffered mistreatment" (p.145). If, for all the differences, there is "a spine" (p.294) of the history of the crafts, it is ultimately that ambivalence. While the creativeness of the crafts has always been with met appreciation, and under- and overestimated as well, there has also been fear of their destructive potential for this very reason. For SENNETT, this ambivalence reflects misconceptions that could well be avoided. In his view, a proper conception of the crafts, steering clear of exaggerated expectations and thus involving only moderate risk, is found in the interpretation of the Enlightenment offered in DIDEROT's *Encyclopædia*. What makes the period of the Enlightenment unique in this respect is the emergence of a new kind of tools, namely machinery, which was as promising as

it was threatening due to transcending what hitherto represented the human scale. The *Encyclopedia* presented

"machines that enable human judgment and operation to come to the fore. The general principle for machine use here is that, if the human body is frail, the machine should aid it or supplant it" (p.99).

"The enlightened way to use a machine is to judge its powers, fashion its uses, in light of our own limits rather than the machine's potential. We should not compete against the machine" (p.105). [15]

The Romantic movement, according to SENNETT's analysis, having gained some experience with industrial development and the threats it has in store, turned against machinery. SENNETT devotes considerable attention to the Romantic critique. Yet he concludes, "Between the Enlightened and the Romantic views of craftsmanship we ought certainly, I believe, to prefer those of the earlier time, when working with machines rather than fighting was the radical, emancipatory challenge. It remains so" (p.118). [16]

The reasoning behind this rather optimistic retreat from criticism is not quite clear. From a bird's eye view of SENNETT's "craftsman," it might be interpreted as resignation turned positive: although even (mechanized) craftwork involves hazardous potential of various sorts, in an enlightened sense it also bears the potential for coping with its risks. [17]

Hence, let us now turn to what SENNETT considers the positive attributes of craftsmanship. The list may vary depending on the distinctions drawn. I distinguish eight main attributes to which additional aspects will be added in Section 4 below.

1. Whenever work is well done for its own sake, and this is the first defining attribute, such activity is not sufficiently accounted for as a means to another end (p.20). An orientation toward quality involves motivations *sui generis* that are different from the ones spurred by extrinsic sources, such as the demands of duty or the prospects of tangible gains. Accomplishing good work yields two kinds of "emotional rewards [...]": people are anchored in tangible reality, and they can take pride in their work" (p.21).
2. Yet, SENNETT's reasoning here is not to argue in favor of introversion. To the contrary, a turn outward to the tangible world (of objects, problems, and tasks) is called for. In this sense, all craftsmanship is of an impersonal nature and relegates personal emotional states to the back seat. "That you might have a neurotic relation to your father won't excuse the fact that your mortise-and-tenon joint is loose" (p.27). Routines play a pivotal part in facilitating this process of *stepping outside of* the self and *entering into* the work role (see Point 8 below).
3. According to SENNETT, there is a close relationship between craftsmanship and forms of cooperation and community: "In the traditional world of the archaic potter or doctor, standards for good work were set by the community,

as skills passed down from generation to generation" (p.25). Medieval guilds played a similar role. The traditional ways were by no means of such a rigidly fixed nature that they defied any substantial change upon the emergence of new tools and procedures. However, as SENNETT shows, change was relatively slow in the making. In present-day society, it would be especially difficult to imagine the close-knit bonds of traditional forms of community. The question of how new types of community and cooperation might be possible therefore also poses one of the main challenges for SENNETT. As he illustrates with reference to the development of the mobile phone or Linux programming, even today cooperation is a superior formula to competition for accomplishing good work.

4. In SENNETT's view, craftwork is not about emulating the traditional or seemingly ideal model: "The model becomes a stimulus rather than a command" (p.103). Craftwork calls for pondering the model as a "proposal" (ibid.), an option that must be worked on while exploring one's own potential and—just as important—one's own limitations. Loss of control and crises are an inevitable part of the work process and provide fertile ground for new perspectives and skills to blossom (p.113).
5. Manual labor is on a fundamentally equal footing with mental labor; the main thing is—and this is the pragmatic lesson SENNETT derives from the Enlightenment—that it makes a useful contribution (pp.91f.). In this vein, mental labor can be viewed as a type of craftwork that creates "useful things," the quality of which can be assessed according to standards of craftsmanship. This "postulate of equality" is cast into the key hypothesis that a more humane society requires placing emphasis on good work, as something most people are capable of (because it builds on, among other things, the childhood experience of play (pp.269ff.), instead of taking the—supposedly or actually—outstanding achievements of a few as the measure. In this context, SENNETT draws a distinction between the "sociable" and "antisocial" experts; that is experts who are consultants to the community and those who are obsessed with distinguishing themselves from others (SENNETT speaks of "invidious comparison"—pp.246ff.).
6. This leads us to the question of tools. Although craftwork of course makes use of special tools designed for special purposes as well (p.194), according to SENNETT, the more typical case is the use of more simply designed tools. Complex tools, which only experts might comprehend, may be impressive solely for the reason of their complexity; yet, such complexity is an impediment to the creative appropriation of tools, which is the basis for novelty and innovation in craftwork as SENNETT perceives it. In contrast, all-purpose tools allow for a wide range of unanticipated uses and, in so doing, facilitate the discovery of new possibilities (see the chapter "Arousing Tools," pp.194ff.). The proper choice of procedures and tools is, in his words, "one of the shibboleths in craftsmanship" (p.160).
7. The permanent "dialogue" between head and hand, so important for SENNETT, has already been pointed out above. It describes a "circular metamorphosis" (p.40) between thinking and doing. Craftsmanship is not a linear endeavor; neither in the sense of first drafting a blueprint that is

subsequently put into reality, nor in the sense of first creating something the appropriate use of which only then becomes the object of ethical reflection (as in the case of OPPENHEIMER). At the outset of a task, as SENNETT demonstrates, the craftsman does not know *where his journey will ultimately lead him*; although the job will be accomplished, the product will not be a final, absolutely perfect solution (see p.262). It is in this sense that SENNETT can state, "it is by fixing things that we often get to understand how they work" (p.199). Feedback and repetition play an important role; they must, however, not be viewed as a monotonous process, but—although it may seem paradoxical—are better understood as *routinized processes of learning*. This allows for experimenting and for exploring necessities (see p.258), limits, resistance, and ambiguities (pp.214ff.).

8. Of particular importance is the positive connotation SENNETT (also 1998) gives routines as the antithesis to flexibilization. Routines are generally looked down upon as boring and stupefying. For SENNETT, routines and a slow pace are elements of craftsmanship, as they are necessary conditions that enable feedback and learning. He even develops a four-stage model to explain how routines form the (only possible!) basis for "intuitive leaps" to occur (pp.209ff.)—which then lead to new habits. He does not consider this a boring, mechanical process: "Doing something over and over is stimulating when organized as looking ahead" (p.175). Not only is sustained practice, in this view, required to develop skills to the point that sophistication and deliberate variation become possible. In addition, the ability to engage in prolonged periods of practicing a skill with some degree of concentration is enhanced in the first place: "practicing becomes a narrative rather than mere digital repetition" (p.160). [18]

4. The Research Workshop

One chapter of the book is devoted to "The Workshop" (pp.53ff.). SENNETT begins by discussing the medieval workshop as a realm of work and a place of living and how it was embedded in the guild system. He subsequently contrasts this with the evolution of the "artist's studio" of the Renaissance. This is a topic of current significance in a number of respects since it provides the reader interested in contemporary social analysis with an opportunity to study some of the problems that are being discussed today in terms of artistic critique versus social critique (BOLTANSKI & CHIAPELLO, 2005): how liberation from the narrow confines of social regimentation has led to new, yet no less powerful dependencies subject to the whims of authorities and markets (p.103). "Artistic critique" is the fitting term in this context. [19]

SENNETT illustrates the patriarchal organization of the medieval workshop. There, the master craftsman literally commanded paternal authority while he also entered into a commitment to teaching skills. The legitimacy of such authority rested not only on the social status derived from the guilds but to a large degree on the skills of the craft. Moreover, it was also closely tied to principles of moral conduct, ensuring the quality of work and the prestige of the guild. To the extent

that such authority was respected, the workshop was a suitable place for learning. In tracing its development, SENNETT shows that in the transition to the Renaissance that authority was questioned and aspirations towards self-determination and originality gained significance. This changed the nature of the workshop. The artist's subjectivity moved to the forefront at the expense of the objectivity of the product and the ritualized workshop community. The upside of this development is the potential it bears to bring forth brilliant "things," as SENNETT convincingly demonstrates in the case of STRADIVARI's violins, which still today have not been successfully copied. Its downside, however, is that the transfer of knowledge and skills loses significance and even contradicts the idea of originality. [20]

The ideal attributes defining these *types of workshops* still have significance in the present, and SENNETT makes connections to modern ways of organizing enterprises and laboratories. Even though the socially constricted nature of the medieval workshop and the relations of authority that marked this setting cannot be imagined in the modern world, we can nevertheless, as SENNETT argues, not do without respected asymmetries and standard-setting authorities if knowledge and skills are to be transferred. Thus he maintains that "it is infinitely preferable that these standards be embodied in a human being than in a lifeless, static code of practice" (p.80). He later goes on to propose the "sociable expert," who relies primarily on good work and transparent practices, as a solution to the problem of a legitimate basis for authority in modern times. "The sociable expert, that is, is comfortable with mentoring, the modern echo of medieval *in loco parentis*" (p.248). [21]

Particularly in "qualitative" research in Germany, the "research workshop" has become a widespread institution. Although the term is in common use, it is difficult to find any explicit elaboration of the concept (see RIEMANN, 2006). In seeking an accurate understanding, one comes across various accounts addressing the phenomenon but under other names (e.g., STRAUSS, 1987). The merit of using the specific term "workshop" is generally not explained. Apparently, we face a lack of reflection in this respect. Good craftsmanship, as discussed above, requires making a circular connection between doing and thinking. In this vein, we will now probe into the practices of research workshops that justify characterizing them as "*workshops*." [22]

SENNETT provides a few cues that may serve as a starting point for reflection and discussion. At the heart of an inquiry into the concept of "workshop" along the lines drawn by SENNETT are questions of authority, originality, and cooperation. If we follow the lead of his historical reconstructions, we can imagine, in the ideal case, polar opposite types of research workshops. In settings where the "master's" originality is at the center of concern, where the main stress is placed on the aspect of art in teaching the art of the trade, we can expect meager yields in terms of teaching and acquiring knowledge and skills. Aiming to strengthen the aspect of teaching by means of steeply asymmetrical relationships, however, can easily result in problems of authority under the conditions of contemporary society. On the other hand, teachers abandoning any

aspirations to legitimately set standards altogether would not be a solution either. To some degree, the ritualization of work relationships via criteria of inclusion, exclusion, participation, and of other sorts (also see STRAUSS, 1987) can create a workshop climate more conducive to learning. My take is that the choice of the name "research workshop" is rooted in two expectations, which we can study more closely based on SENNETT's analysis. The first expectation is that the kind of work done typically refers to the analysis of empirical data; in this sense it is "close" to the "material." According to SENNETT, this is of course not a necessity since a "philosophy workshop" may make reference to some form of object as well. The second expectation connected with the "research workshop" is based on the idea of work being organized as a joint cooperative effort. In a domain marked by competitive relations, as is the case in the field of research, this is neither trivial nor a matter of course. The setting typically demands individually attributable, novel achievements, thus showing greater affinity to the "artist's studio." With SENNETT, we may conclude that, for structural reasons, the latter arrangements have an adverse impact on teaching and that insights and other benefits are unequally distributed. [23]

5. Conditions of Good Academic Work

SENNETT does not limit his sociological analysis to the mindset of craftsmanship only, but extends it to the institutional embeddedness of those orientations. "(T)he desire to do a job well for its own sake" (p.9) is not simply an individual trait but rests on a number of presuppositions. The previous discussion of workshop organization (Section 4) touched upon a few issues relating to the immediate work environment that point in this direction. But SENNETT also gives attention to other levels, ranging from large-scale organizations to the analysis of contemporary society. Which organizations and institutions encourage or impair commitment in the sense of craftsmanship? Are there developments in contemporary society that have the potential for craftsmanship? [24]

SENNETT is a critical observer of current social development, and this precisely is his motivation for exploring craftsmanship in pursuit of an alternative perspective. Today, he observes,

"bulldozing the career path; jobs in the old sense of random movement now prevail; people are meant to deploy a portfolio of skills rather than nurture a single ability in the course of their working histories; this succession of projects or tasks erodes belief that one is meant to do just one thing well. Craftsmanship seems particularly vulnerable to this possibility, since craftsmanship is based on slow learning and on habit" (p.265). [25]

It is nevertheless not a hopeless endeavor since acquiring new skills and, most notably, building on the ones already possessed is possible, in the sense of more fully developing one's potential as implied in SENNETT's notion of craftsmanship. Institutions ought to foster such a development—instead of just forcing people into random jobs: "poorly made institutions will ignore their denizens' desire that life add up, while well-crafted organizations will profit from it" (p.267). With this in

mind, SENNETT analyzes the reform of the British health system; in providing 1.2 million jobs, it is the largest employer in the U.K. Along similar lines, we might ponder the (German) academic system—a topic that we can of course only touch upon in this context. [26]

The essence of science and research is to open up new insights—a mission that can be interpreted in different ways depending on the specific social environment in question. Almost 100 years ago, Max WEBER (1946 [1919]) already described the pursuit of an academic career in Germany as a "hazard." In Germany today, it is common to speak of a "precariousness" that "bulldozes careers."³ In the meantime, the "old capitalism" has been dismissed for its rigidity. Instead, flexibility is applauded, the ever new is cherished, and expectations are geared toward the encouragement of individuality and the unleashing of creativity ("artistic critique"). This *zeitgeist* has also seized large parts of academia (and science and research policy as well) and has begun to abolish antiquated forms of social regimentation and exclusive practices of status protection. However, this *zeitgeist* can obviously be easily mistaken for the main function of science as such, which is to produce new knowledge. Keeping with SENNETT, we seem to have lost an awareness that the creation of novelty in accord with high standards must rely on routines and many years of practice and experience. In confusing *zeitgeist* novelty with scientific novelty, a conflict of values resurfaces, which we are familiar with from SENNETT's analysis: "Thus, one reason we may have trouble thinking about the value of craftsmanship is that the very word in fact embodies conflicting values" (p.51), which can be institutionally reinforced. This refers to the conflict between absolute or perfectionist (pp.252ff.) measures of functioning versus a more relativistic understanding. In SENNETT's view, craftsmanship involves the *desire to improve one's own work*. While this can lead to an inability to accept any kind of imprecision and to an obsession with absolute perfection, on the one hand, it may involve a more practical focus on what may be considered good according to more pragmatic standards of appropriateness, on the other. The latter is prone to criticism of mediocrity whereas the former, alongside possible improvements, may also entail considerable costs and losses, as SENNETT demonstrates in the case of the British health system. The conflict is irreconcilable within the mindset of craftsmanship: The quest for improvement inevitably questions previous knowledge and skills, which at the same time form the foundations of the craftsman's adeptness at his craft. Striving for "absolute perfection" may unleash a dynamic that represents a threat to good work, which is characterized by patience and addressing problems in a slow-paced manner that allows for successively incorporating experience. [27]

The *zeitgeist* conception of novelty aspires to standards of absolute perfectionism and, in so doing, may indeed produce outstanding research—as witnessed in the case of improvements in certain areas of the British health system. But what is the bottom line if we look at the whole picture? In the course of an intensification of competition for reputation and particularly for research funding, good work, in

3 WEBER (1946 [1919], p.2) already used the term "precarious" in the academic context, and he was aware of the strain caused by the uncertainty that marks such careers when he writes: "[...] I have found that only a few men could endure this situation without coming to grief" (p.4).

SENNETT's sense, across the wide range of academic endeavors falls by the wayside. Measuring fractions of a second may be meaningful in sports. And at the next contest, things may change. Yet, the example of sports also testifies to the sophisticated conditions required to enable such minimal differences—starting with the complex technical equipment needed to even determine those differences, via the training conditions and costs in the millions for the individual athletes, all the way to problems with doping. The efforts seem worthwhile because the minuscule differences can take the shape of medals that are awarded or not awarded as an absolute measure of success. Applying the same model to science creates similar problems, yet here they can easily come into conflict with the purpose of the scientific endeavor. [28]

Better research may be the result of unequal conditions for research at the starting line. It is also no easy task to determine how much better certain research is—in any case, considerable effort in terms of measurement and evaluation is required to pinpoint such differences. (Such effort involves, for instance, the conception and preparation of a host of research projects, which are then abandoned if not selected for funding). Even in the event that all participants more or less perform the same standard of good work, the nature of a contest requires that winners are honored. This, however, typically leads to cumulative effects since the winners are rewarded, for instance by special research funding, and can subsequently proceed with their work under improved conditions or are able to continue their work in the first place.⁴ [29]

The fact that intense competition and selection may also lend appeal to unfair means is only one aspect to be considered. Another is the focus on quick, potentially rewarding results instead of thorough reflection—here too, excessive emphasis on minuscule differences (in terms of insights gained) allows to rapidly present them as new and improved knowledge. Touching upon the issue of speed, SENNETT himself refers to science as an example:

"The obsession about who got there first is irrelevant to the discovery itself. Invidious comparison of speed has distorted the measure of quality. Yet the passion to race drives science; those in the grip of this competitive obsession easily lose sight of the value and purpose of what they are doing. They are not thinking in craftsman-time, the slow time that enables reflection" (p.251). [30]

Finally, such a competitive obsession stands in the way of cooperation and, in SENNETT's words, produces "antisocial experts" (pp.246 ff.), which, in addition, mostly evade any form of (democratic) control. This raises the question of how we can assume that outstanding results, even if they are in fact achieved, are to the benefit of all, particularly since the general public is not in a position to assess the results on its own but must rely on the interpretations and promises of those same experts. [31]

4 Also see NECKEL's (2006) work on the relation of the logic of achievement versus the logic of success.

These are well-known arguments that have been brought forth in one way or the other in the past, especially in the debate on the so-called "Excellence Initiative" in Germany. Of course, this general verdict does not allow drawing conclusions on each and every development in the field of research funding. For instance, in recent years a number of age restrictions on research funding have been abolished in Germany. This acknowledges that the most direct, meteoric career path as such does not guarantee irrefutable quality. Or, put the other way around, that there is no reason to assume that research is inferior per se just because it has been done at a later point in the life course. Fully in line with SENNETT's reasoning, we may state that precisely because there is no sharp division between everyday practice and scientific practice, we can even expect competencies other than purely academic qualifications to flow into research work in such cases. At any rate, the quality of research can only be assessed if it is permitted to the point of assessment and does not fall victim to prior selection processes. [32]

SENNETT supplements his criticism by making an alternative offer inspired by the idea of craftsmanship. He is of course aware that there exist differences in individual ability, yet sees no benefit in "dwelling on the fact" (p.277). For him, the more important insight is that the large majority share the common ability to do good work. Applying this insight to the world of science, we may draw the following conclusion: Instead of permanently conceiving new methods for dramatizing differences in order to distinguish some sort of outstanding top-level research, the craftsmanship perspective suggests promoting good academic work across the full range of academic research. Where only the "best" work is recognized, good work is permanently degraded or disparaged as mediocre (see ILLICH, 1990 [1973]; similarly BAUMAN, 2000). The craftsmanship view means giving greater appreciation to the good work of the many compared to the promise of excellence by but a few, which, in a democratic sense, is ultimately also more conducive to the public interest. SENNETT marks the essence of the political issue in the following terms: "Would we then sacrifice Stradivari's cellos and violins for the sake of a more democratic workshop?" (p.78) "The Craftsman" does not claim that there is any simple answer to this question. Himself a cellist, SENNETT has great appreciation for a Stradivari—but not as the common standard for all else to be measured against. The obsession with excellence creates false promises that trigger a destructive dynamic. [33]

6. Open Questions

Richard SENNETT has written a dedicated book of potentially high use value: it draws on a rich diversity of empirical material, offers inspiring ideas that can also be applied in work on other subjects, and we can only look forward to what he *puts together* in the two volumes scheduled to complete the trilogy. SENNETT deserves great credit for going beyond mere criticism to outline an argumentative alternative in "The Craftsman."⁵ He also does not shy away from forging this

5 He already laid the groundwork for this in his book on respect (SENNETT, 2002). There, however, the craftsman only stood for a chance to achieve self-respect while his or her ability to actually realize interpersonal respect was met with skepticism.

alternative by exposing it to the strongest objections and counterexamples (concentration camps as the product of "good work," STRADIVARI's originality). Yet, there remain a few open questions that are not easily resolved.

1. For the very reason that history has seen different understandings and practices of craftsmanship, as SENNETT shows in tracing its historical development, craftsmanship *per se* cannot serve as a model for a social alternative in every respect. SENNETT sympathizes with a specific conception of craftsmanship that prevailed during the Enlightenment even though he tends to speak of craftsmanship, craftwork, etc. in a very general sense. A more precise classification according to some typology of craftsmanship would certainly be in order here.
2. The broad notion of work has advantages but also disadvantages. It implies that those who perform good work also lead a good life, thus good work is, for instance, also associated with good parenthood or good political practice. "We want the shared ability to work to teach us how to govern ourselves and to connect to other citizens on common ground" (p.269).⁶ SENNETT concedes that the relation between craftsmanship and politics is the least developed side of his argument (p.290). But also in daily life we may come across people who adopt the mindset of craftsmanship in some areas and not in others. A much weaker proposition is that craftsmanship at least provides a blueprint for and suggests the possibility of leading a good life, which of course compromises the holistic concept of craftsmanship to some degree. This thesis is more plausible simply for the reason that SENNETT sets out to detect elements of an alternative, which by definition cannot be expected to be widespread practice under the conditions criticized. This leads us to the question as to the possibility of establishing and disseminating the practices of craftsmanship to a greater degree.
3. The relation between commitment and institutional embeddedness needs to be elaborated in more detail with regard to the chances of establishing alternative practices: "Sociable expertise doesn't create community in any self-conscious or ideological sense; it consists simply of good practices" (p.249). The characterization of a good, sociable expert practice as compared to an antisocial one (pp.246ff.) fails to explain how the latter might be improved toward the former. Socially minded expertise evidently bears the burden of upholding an ethic similar to what was common in traditional settings (e.g., the guilds), only without the supporting institutional framework. There are, however, still too few cues as to how good work might serve to stabilize cooperation while it itself needs to be provided with stabilizing institutional foundations at the same time. In the academic domain, research workshops appear to be an interesting empirical starting point for a more rigorous pursuit of such questions.
4. For SENNETT, the—never complete—process of craftwork is at least as significant as the results of making things. For this reason, he is more

6 This has a quite instrumental ring to it, which is why we need to bear in mind that thinking and doing, speech and action, culture and nature are not approached as opposites but are analyzed in terms of their interwovenness. For this reason, social bonds are viewed in "instrumental" terms, just as physical labor is perceived in "social" terms.

concerned with the techniques and procedures of good work than with the supposedly best results.⁷ In consequence, he to some degree deviates from his own focus on usefulness that he introduces in his pragmatic interpretation of the Enlightenment. What is useful and what not is no easy decision to make. The slow pace of craftwork may allow to regularly reflect on questions of usefulness, on a small scale, in detail, and by continuously taking new experiences into consideration. Yet, to me, it remains an open question whether such reflection can be expected to give rise to adequate assessment criteria. It seems that SENNETT has something like ILLICH's (1990 [1973]) idea of "human scale" in mind. From a pragmatic point of view, this can be called "useful," yet it remains a very vague notion of usefulness, which, without doubt, is to some extent intended. [34]

Nevertheless, SENNETT's book is an inspiring invitation to apply the ideas it raises to a wide range of concrete objects and subject matters, including the (self-) assessment of academic practice, and to test and further develop them. [35]

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7 "We would focus on form and procedure—that is, on techniques of experience" (p.289). Elsewhere, I have attempted to show how this might be developed into a methodological approach (see LORENZ, 2009).

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