The relational network of knowledge production[*]

Emiliana Armano

Introduction

The aim of this essay, mainly based on empirical research conducted through focus groups and interviews, is to develop a qualitative understanding of the subjective condition of knowledge-based labour[1]. Therefore, this qualitative case study shows the depths of subjectivity in its multiple dimensions (without claiming, of course, general or universal results). The context of this research is Post-Olympics Turin[2], a city which has been the historical stronghold of Italian big industry and which is now in the midst of a profound transition to a service-based economy. The protagonists of this study are knowledge workers: their expectations, their fears, their skills, their political invisibility, the potential for innovation they embody and the uncertainty they face. The aim of our research is to delineate the self-representation of cognitive labour as a first step to recognize the necessity of self-protection (Bologna and Banfi, 2011). As a consequence, this study must be considered in continuity with the fruitful tradition of Italian 'co-research' (*conricerca*) (Alquati, 1993).

---

[*] The author thanks Emanuele Leonardi for his careful and attentive translation.

[1] This article provides a summary of the results of research published in *Precarietà e innovazione nel postfordismo. Una ricerca qualitativa sui lavoratori della conoscenza a Torino* (2010, Bologna: Odoya). A preliminary draft of this paper has been published as *Il divenire relazionale della produzione*, in 'Quaderni di San Precario', Milano, 1/2010, p.199-210 (http://quaderni.sanprecario.info/wp-content/uploads/2013/03/Q1-Il-divenire-relazione-della-produzione.pdf).

[2] In 2006 Turin hosted the Winter Olympics Games.

The context: The development of knowledge economy in a post-Fordist city

The expression 'knowledge-based economy' refers to the heterogeneous set of productive activities that revolves around the processing of information and to workers who focus on the creation, development and diffusion of knowledge. In general, the knowledge-based economy does not exclusively refer to specific branches of production. Although some realms seem to be more invested than others (e.g. new media, web markets, advertising, cultural and artistic projects) the expression 'creative economy' does not refer to particular sectors but rather to the valorization of 'immaterial' functions and cognitive/creative elements of the cycle of production of goods and services as a whole.

Turin's 'tertiary' transition towards a knowledge-based economy was fostered, during the 1990s, by two simultaneous and convergent meta-processes: on the one hand, the de-verticalization (through outsourcing) of activities and functions once internal to corporations and, on the other hand, the creation of activities and functions linked to new technologies, self-promotion and entrepreneurialism (Consiglio italiano per le scienze sociali, 2007: 37). These processes mainly affected the most represented sectors of the economy, namely the services sector. This dynamic originates from multiple factors such as the outsourcing of previously internal functions, the development of ICT applied to productive cycles, the broadening of immaterial assets (R&D, design, education, communication, finance) incorporated into the value chain and, finally, the increasing displacement of professional expectations on the part of young and/or educated workers.

In relation to Turin, there are two relevant aspects emphasized by our research: the increasing socio-economic significance of knowledge-based jobs – particularly creative and cultural jobs – and their centrality with regard to a specifically urban economic structure.[3] This transformation was driven by an expansion of technical and professional employment and a remarkable reduction in the number of generic workers and employees.

---

3   In Turin the chain of knowledge-based labour shows a mixed structure: it combines immaterial assets related to technology-driven manufactures and advanced consulting on management, technology, finance, research and 'creativity' (design, communication, etc.). See Turin Socio-economic Provincial Observatory.

Elements of empirical research

We limited ourselves to the investigation of a high skilled segment of labour, which qualifies the ongoing transformation and is particularly relevant for approaching workers' subjectivity. Our field research is based on the analysis of 39 in-depth interviews (narrative and biographical aspects are privileged) with women and men employed in several and differentiated chains of knowledge-based labour in Turin (Armano, 2010a; 2010b). The interviews were mainly conducted during significant 'events' that occurred between the end of 2006 and the beginning of 2007: Virtuality, Linux Day, Artissima and the Turin Film Festival.[4] These are events that mark, symbolically, the kind of passage that this transformative city is experiencing.

We interviewed ICT programmers and developers, telecommunication workers and university researchers, web designers and web workers, digital artists, industrial designers, journalists, translators, photographers and video makers. Mostly, these workers were employed through temporary contracts, from self-employment to project-agreement and micro-enterprise. The stories we collected show new labour subjectivities, constantly oscillating along the demarcation line between autonomy and exploitation.

The use of a narrative and biographical approach allowed us to understand the lived experiences of precarious knowledge workers, starting from the very meaning attributed to working conditions. As a consequence, our attention is focused not primarily on 'facts' and 'objective' transformations of the job market; rather, we look at narratives as sources of signification – in fact, interviews have been collected as discursive formations and expressions of subjectivity and representation (Bertaux, 1998).

In order to provide a clear presentation of the sample, the tables show personal data of the interviewees as well as their professional and contractual profiles (see appendix). The interviews are organized according to the working chain (ICT, digital productions, web, new media, multimedia arts, education and research). To respect participants' privacy, all names have been changed.

In this sample, project-based employment can sometimes be regarded as an explicit choice on the part of the creative worker, namely as a particular socio-working mentality (Himanen, 2003) as opposed to a mere market-led necessity. In accordance with other studies on knowledge-based labour conducted by Sergio

---

4   Virtuality   (www.virtualityconference.it),   Linux   Day
     (www.torinolibera.org/linuxday.php), Artissima   (www.artissima.it) and the Turin
     Film Festival (www.torinofilmfest.org).

Bologna, the attention has focused on subjective and objective risks (Lupton, 1999; Beck, 2000; Rullani, 2005) and our main hypothesis assumes that micro-enterprises[5] belong to the sphere of labour and not to that of capital. The progressive construction of our sample has followed the snowballing model with specific reference to cases of interest in a given socio-professional environment. With regard to textual analysis it is important to underline that the systematization of data and its interpretation are strictly interconnected moments and do not linearly follow one another. The *in extenso* transcription of interviews represented the first step of the analysis (Armano, 2010b: 25-231).

Findings

The empirical research, through the analysis of narratives, allowed us to grasp the substantive categories (Bertaux, 1998; De Maziere and Dubar, 1997) of the social language by means of which subjects express their practical logic. The keywords allow for the understanding of subjects' point of view.

Let us now synthetically expose some results:[6] this research highlights some counterintuitive dimensions with regard to mainstream readings of knowledge workers' conditions. In recent literature, knowledge workers' subjective experiences have been mainly described through stereotypes or particular categories which progressively generalize single aspects of working conditions as a universal form of class composition. Some authors have *tout court* depicted them as a new 'élite' in a sort of mythical, creative e-topia (Florida, 2005). At the opposite end of the spectrum, some authors have proposed the image of 'net slaves' or 'web precariousness, advancing an interpretation which shows workers exclusively as 'victims' of de-regulated forms of the job market dynamics (Lessard and Baldwin, 2000; Sennett 1998; 2008). In order to formulate a criticism of these opposite readings, our research has attempted to investigate the subjective representations by individual workers. By assessing knowledge workers' own point of view on their actual experiences, our results refer to the idea of a socio-professional and life condition characterized by a strong and irreducible ambivalence between elements of precariousness and elements of innovation. If, on the one hand, labour in post-Fordism brings to the foreground new

---

5   A micro-enterprise is a small firm with one to five employees, including the co-owner. Organizational roles and income of participants have more in common with autonomous work than firm employment.

6   More detailed analysis can be found in the research report (Armano, 2010a: 95-176) and in the volume which collects the *in extenso* interviews transcriptions (Armano, 2010b: 25-371).

communicative, relational and creative capabilities, it is nonetheless true that, on the other hand, those capabilities are put to value and dispossessed.

The knowledge worker's condition has been investigated starting from the initial, indicative assumption that risk (as Ulrich Beck understands it) affects subjects in a variety of ways. Especially with regard to social and labour rights, the notion of risk brings about aspects of precariousness which are connected to the weakness of formal protections contained in atypical contracts, as well as to the peculiar condition of autonomous workers. At the first stage of our field research, we expected participants to refer often to rights-related issues, contractual instability and the absence of political representation. On the contrary, however, we discovered how frequently and spontaneously references to the value of self-realization in the professional framework emerged, along with a strong emphasis on the importance of belonging to networks. Narratives, as fundamental elements of such workers' identities, mostly turn around these axes.

Our results show that subjective risk-perception is neither exclusively nor primarily focused on the lack of formal protections but, rather, on the fear of disappearance of those informal protections upon which this socio-professional world strongly relies. As a consequence, it becomes impossible to interpret informality as solely a resource or, to the contrary, as a mere trap of precariousness. For knowledge workers, as it emerges from their biographical stories, informality in its different dimensions (organizational, labour relations, educational) appears inextricably ambivalent as a peculiar element of this labour segment (Alquati, 1997; 2003). The narratives are invaluable for accessing a situated description of workers' position within organizations and of their more general conditions. Instead of the formal narrative provided by organizations (composed by contracts, proceedings, memorandums, table, calendars, pay-cheques, etc.), the interviews provide a subjective narrative based on informal living experiences, a picture of the organization which is latent in working subjects.[7]

---

7   The conceptual distinction between formal, informal and latent organization was developed by Romano Alquati. In his view, *informal proceedings* are both the modalities that effectively put in practice the official aims (i.e. the informal organization of labour) and the modalities through which workers can, potentially, realize their goals as subjects rather than official aims (i.e. the latent organization of subjects). What is emphasized is the ambivalent gap between the system of official rules and the reality of subjective power. This definition of 'informal' is clearly different from the usual notion of 'informal economy' used in the International Labour Organization's statistics. The latter refer to an economic set of irregular labour, non-regulated (contractually or fiscally) grey jobs such as home-based employment or street vending. Institutional literature has repeatedly assessed this

In the narratives, empowering elements of informality present themselves in simultaneous conjunction with its critical aspects. Such ambivalent proximity re-defines the notions of precariousness and innovation-based risk. This situation is not adequately articulated, for example, by the concept of embedded social capital (Granovetter, 1985), which is only partially able to describe knowledge workers' socio-professional condition. The kind of informality produced by profound processes of de-proceduralization, de-institutionalization and de-verticalization of organizational structures, de-standardization of labour and risk-diffusion, is experienced on the one hand as a resource, as a social capital that carries with it opportunities, information and relations; on the other hand, as soon as it replaces working continuity and extended contractual protections, it appears as a limit.

Contrary to the Fordist epoch, the gap between formal corporate organization and informal (potentially autonomous) labour organization seems to have vanished. For knowledge workers, due to mobile technologies, organization ostensibly liquefies itself and the informal dimension of labour overlaps and replaces the formal corporate organization. In other words, we witness a net composed of people who function as hubs, that is to say, 'informal organizations' based on the indisputable priority of belonging to it. In contrast to the Fordist world, the organizational environment for knowledge workers is not circumscribed to a single workplace. Trust bonds and cooperation are not limited to the working community *strictu sensu*; rather, they are rooted in the magma of social cooperation, in the leisure environment in its broadest sense. Thus, we find individualized working profiles and professional trajectories within which durable social links are often situated in a network that extends beyond the temporary, physical workplace.

Interpretation and interviews extracts

> My job? It's all via email. There are rather curious situations where I've never been. There were phone contacts with *La Stampa* [a national newspaper] in Milan, then I met a journalist who asked me to write some pieces, then I met another journalist so I kept collaborating, without having physically been in the *Mondadori* [publishing house] headquarters. In Milan it works like that, more or less. (Gianni, freelance web journalist)

Whereas in the Fordist world the physical cornerstones were constituted by factory, office and plant, in knowledge-based labour the physical frontier is the

---

informal sector, especially to quantify the value produced by so-called 'shadow economies' (see Portes and Halles, 2005; Carr and Chen, 2010; World Bank Report, 2010).

metropolis, the territory in which the project is situated. It is not by chance that the idea of the network emerges in many narratives as an evocative metaphor to describe sociality and, simultaneously, the technological model around which the working activity is organized. This issue recurs often, for example when new media workers discuss the tensions and limits brought about by the use of mobile technologies or by participation in virtual communities (interactive social structures created by Web 2.0). This process is also due to the usage of mobile technologies that delineate new, flexible and dynamics modalities of labour. The fundamental novelty concerning the relationship with technology is the fact that knowledge is no longer exclusively incorporated within labour and machinery. In fact, there exists an in-between space of connectivity within which it is possible to build up working and learning relations. Knowledge-based labour is re-territorialized within this in-between space (Castells and Himanen, 2002; Shirky, 2009), giving rise to a true trans-corporate web.

> [W]e work on communication and so our job cannot only be a gym for personal and professional growth. You've done half the work and the other half must be that of spreading it because we believe a great deal in the net. You throw it out and who knows what'll come back! (Catia, freelance photographer)

The kind of mobile labour that deploys itself in these professional networks is posited on the one hand as a liberating tool that provides further degrees of autonomy linked to the power of digital technologies and to the universality of languages allowed by the expansion of communication beyond time-space constraints:

> We use the internet very intensely. First of all, we do not have an office, no secretaries, and we try to manage things without them [...] The exchange of documents is exclusively via email, very often we send offers through email, or we get an order, or we forward an invoice. It's like that also in Italy, especially these last years. I recall when I used to go to the post office to send the invoices with stamps: now many people accept a .pdf invoice sent by email and then they print it. (Alberto, software house co-owner)

On the other hand, the mobile labour that is remunerated once the result is achieved is measured through new modalities of communication. This digitalization fosters the utter saturation of workers' experience of temporality, which is now becoming limitless.

> Damn cellphone! I was always available, impossible to be free from this terrible little light [...] It's terrible because my job there was always to answer the cellphone and then run everywhere. It was very, very difficult. (Catia, freelance photographer)

In this kind of relational labour (Marazzi, 1994) – socialized through the network and transmitted through mobile technologies – availability, autonomy and

traceability are part of a *modus operandi* and of an organizational model centered around the interiorization of the market. What seems to be common, regardless of sectors and contractual forms, is the importance of always being available. This condition of forced availability is characterized by an expansion of working time: for cognitive workers – whose job is structured through projects and collaborations – working time becomes limitless. Thus, the separation between life-time and working-time, which is typical of the Fordist world, completely shatters. Similarly, the distinction between workplace and 'home' is no longer valid. As a consequence, knowledge workers' labour is less dependent on factors such as 'space' and 'time' than Fordist, manual labour. Time appears to be internalized and thus freed from external, formal control. At the same time, it shows itself as extended, indefinite and extremely dilatable. It is clear, then, that the ambivalence of connectivity is experienced as informality, brought about and supported by mobile technologies.

> I couldn't put a figure on the time I spent working [...] I frequently read, in the evening or during the weekend, what I need to know at work, I read on the train. (Valerio, freelance researcher)

> [P]ersonally, I live with these working concerns, even in my daily life. Even when I go to watch a movie at the cinema, or when I rent a DVD, or when I buy a magazine. There is no discontinuity with my personal life. (Marco, software house co-owner)

> Clearly, when you work in such a way you don't have fixed working hours. I used to work (and still do) through projects and, as a consequence, it's very difficult even to define time, to distinguish between time spent for training and development and time actually spent for production. (Alberto, software house owner)

These relationships are very personal and, from an organizational perspective, are similar to connections and contacts in a shared environment and socio-professional community. They appear to be mutual recognition links rather than structured and formalized relationships. In fact, the web should be read through a logic of connection/disconnection. Connection entails the creation of a temporary link based upon trust-toward-a-goal, a loose bond whose refusal is always possible by means of disconnection (Castells and Himanen, 2002; Petti, 2007). This act occurs contingently, simply when the 'trustful contract' decays or when the goal changes.

Moreover, within these networks the norms are fluid. Norms depend more on the capability to relate and interpret a working role, to mutually recognize each other in professional communities (Pizzorno, 1999; 2006; 2007; Regalia and Sartor, 1992) than on standardized procedures, protocols and codified behaviors.

> [O]nce you're able to do this job well, the important thing is just to continually widen your contact base, which is something this environment allows [...] It's not that important, at least for companies like mine, to regularly visit your clients to present your services. It doesn't really work like that. What is required is trust, and trust is to be found in the social network. A friend of yours tells you: Trust him, give him a try. So you go, and then this happens again. This is how it works [...] Well, you're in the network and you transpose it into real life. (Claudio, self-employed web content)

It seems to us that the professional condition of service-based and advanced tertiary labour assumes a paradigmatic role also for knowledge-based labour. According to some scholars (Touraine, 2006), it is possible to refer to a widespread process of feminization of labour as a trademark of the post-Fordist employment regime (Morini, 2010). Through such a definition, a reference is established to relational and affective attitudes, flexible and caring interactions, which belong to the field of so-called labour-power reproduction (historically determined as feminine). Informality, however, as well as the linguistic and relational character (Marazzi, 1994) of knowledge-based working relations, are not only resources but also limits.

> [Y]ou can work in an environment where you aren't asked to do grueling shifts [...] but [...] it depends, yes, it does, on how a person manages to fit into the group. It's strange, but that's the way it is. It's more like a secondary school class rather than a work situation. (Gabriele, *cocopro* project worker)

With regard to feminization it is clear that there is a gap between paid capabilities and broader capabilities, also of a relational kind, which are employed in the production process. What is required is for the worker to produce and sell a commodified interaction with the costumer. The fruition of the product-service is always coupled with (sometimes even based on) the trust involved in the worker-costumer relationship, the limitless availability in a continuously flexible interaction. There is a section of the working performance that is not included in the required set of competencies but is nonetheless mobilized for free, as if it were a 'natural and spontaneous' personal inclination of the individual worker:

> It came very easily, for someone from particular fields where everyone knows everyone else personally and where you're among friends [...] Here it is attributed to the company. (Valerio, freelance researcher)

It is a sort of disposability, a forced availability, which is presupposed and somehow demanded by the company. We have already defined such a process as feminization of labour, namely as a perpetual availability which is assumed by the corporation as a 'normal' attitude to take care of things with affect, even beyond contractual constraints. Within the framework of knowledge-based, labour informality is not merely a resource; it also contains contradictory

elements. Starting from this point, we would like to advance some considerations about the costs implied by the permanence (i.e. the duration of belonging) in these informal networks. For knowledge workers, such a permanence involves huge costs of a social, economic and political nature because the network 'puts to value' personal bonds; in addition, both roles and protections are configured as informal. The personal interpretation of roles is pivotal in the context of working processes: individuals 'jut out' of organizations (Butera, et al., 2008) and personal bonds often become valorized through self-exploitation.

The profound ambivalence of those informal, amicable, pseudo-'communitarian' working networks relies on the fact that, to a certain extent, norms and rights formally defined by contracts actually depend on the extent to which, at a concrete level, they can be enacted. Positions, roles and tasks are often fluid and depend on whether or not working relations and contracts can be informally interpreted in the workplace and within single projects. It is clear that when formal protections are weak (as it is the case with temporary contracts as well as with many forms of autonomous labour), the amicable and pseudo-familial networks provide security in an effective (if momentary) way. Moreover, whereas in the Fordist era working identities were constructed by means of successive, slowly ascending steps that designated a linear trajectory oriented to a precise end within an organization, in the post-Fordist environment both procedures and results are fluid and uncertain. From the narratives we collected it is evident that our respondents have difficulty thinking according to a long-term temporal perspective. For knowledge workers who experience the temporary nature of current contracts, suffering seems to arise from the difficulty of shaping a consistent narrative, of defining a storyline, of recognizing a 'plot' in different activities and of selecting a clear goal. Our insistence, corroborated by the narratives, on the issue of risk and its management shows how fundamental constructed trajectories are, conceived of as assemblages of differentiated working experiences.

Final remarks

The network, as it emerged from the interviews, is never critically put into question. To be in a network as an informal field of provisional roles with temporary duties and rights seems to represent a necessary condition, without which mere exclusion remains: from contracts, projects, income, identity. In a field in which temporary and task-oriented contracts, digital technologies and aspirations to self-realization appear to be integrated, knowledge becomes obsolete almost immediately and transforms itself in an incredibly rapid way. Simultaneously, new standards proliferate and people express the necessity to

constantly be up to date (as well as the pressure that derives from it) and the desire to live on the threshold that separates self-exploitation and self-realization. This line of tension creates a sort of informal sociality which is compulsive, extremely lively but profoundly coerced (Sproull and Kiesler, 1991).

It is important to underline the consequences of spontaneous cooperation and informal sharing that are present in the socio-professional networks. Human capital, being by definition inseparable from its bearer, transforms the subject (Cohen, 2004). Knowledge-based labour, as we have seen, embodies a relevant portion of immaterial and relational labour so that behaviours, motivations, and social and emotional skills play a much more decisive role in qualifying such an activity and its inclusion in the valorization process. On this premise, André Gorz could claim that the individual becomes an enterprise, and that this 'transfer of corporate skills toward the base' allows for 'the suppression, to a large extent, of the labour-capital antagonisms' (Gorz, 2005: 1; my translation; see also Gorz, 2003). This feature recalls the nature of the network economy, in which every enterprise is embedded in a territorial and social texture defined by its interconnections. Thus, productivity depends to a considerable extent on cooperative capabilities, communication, hubs and participants' self-organization. The result is not something tangible but, first and foremost, the construction of relations, an activity of interaction in which the very self of actors is produced. Such being the nature of subjectivity and its relations, the following question can be posed: to whom does such wealth belong? Who accumulates those resources and who puts them to value?

From a corporate perspective, in a sort of new enclosures frontiers, what is at stake is the dispossession (re-codification) of a human capital they did not train nor pay for (Cohen, 2004; Gorz, 2003). Such a capital is constituted by the set of non-remunerated socializing activities, those most common and everyday-like, which enable us to interact, communicate, learn and create trust. Enterprises exploit skills produced by society as a whole, for example the abilities of interpretation and communication which lie dormant in language. Individuals, on their part, appropriate this knowledge and cultural capital to pursue personal ends such as self-production and autonomous socialization. This human capital produced by society, or this self-production, thus becomes what is at stake in the conflict between subjects who bear it (having developed it starting from a set of faculties and personal capabilities) and markets as capturing networks of enterprises whose goal is to freely dispose of this social, human and relational capital according to their specific needs. From a political perspective, what must be achieved is a proper understanding of the modalities through which the link between relational practices and forms of coalition can be modified. If the

starting point is the category of risk, the ending point cannot but be the idea of self-protection.

Thus, what is needed is an attempt to understand which spontaneous and/or organized processes can effectively socialize risk in the context of knowledge-based labour. Similarly, what must be newly addressed is the question concerning new forms of solidarity, to be possibly based on a higher degree of autonomy and on unprecedented acquired potentialities. Recalling the arguments articulated so far, it is possible to discern some subjective characteristics and relational practices that are of great importance in order to envisage new forms of social coalition. As we pointed out, the tendency to remain in a given field of activity and to invest in informal networks is a fundamental element of knowledge workers' identity. It is exactly this field of services – defined by a high degree of knowledge and creativity – that employs a whole population of productive actors. Such a population configures itself as 'socialized' to values, languages and conventions that are clearly permeated by 'the new spirit of capitalism' (Boltanski and Chiapello, 1999). At the same time, however, these conventions are also traversed by subcultures linked to the 'cultural' revolution operated by the new economy during the 1990s (Ross, 2003), project- and network-based way of working, and the attitude of collaboration experienced by IT workers and hackers (Himanen, 2003; Formenti, 2011; Lovink 2012).

We can say that informal networks not (at least not *only*) serve as an organizational model; rather, they show the relevance of cooperative aspects (and the strategic centrality of knowledge, relationality and information) as fundamental structures of contemporary forms of production. This issue poses the question concerning the relationship between individual conditions, labour representation and collective bargaining. Moreover, such a question must be situated in an environment in which the terms of cooperation and competition (along with their conditions, hierarchies and segmentations) are symbiotically shaped in unprecedented ways.

Appendix

Name	Age	Gender	Role	Contract
Marco	35	M	programmer	co-owner software house
Federico	25	F	software developer	*cocopro*[8]
Patrizia	27	F	software promoter	occasional labour
Dario	35	M	project manager	consultant
Gloria	32	F	web designer	*cocopro*
Alessandro	32	M	web writer	*cocopro*
Claudio	32	M	web content e blogger	autonomous labourer
Gianni	30	M	web journalist	freelance

Table 1: Interviews with web workers, conducted at Virtuality

Name	Age	Gender	Role	Contract
Sergio	34	M	developer and trainer of open source software	*cocopro*
Roberto	36	M	promoter of free software	*cocopro*
Marcello	23	M	promoter of free software	*cocopro*

Table 2: Interviews with web workers, conducted at Linux Day

---

8   *Cocopro*: project-based labour (short - term job with minimal rights)

Name	Age	Gender	Role	Contract
Emanuele	45	M	systems specialist	*cocopro*
David	36	M	software developer	consultant
Sara	41	F	software developer	consultant
Alberto	40	M	developer	co-owner software house
Alfredo	44	M	database administrator	public sector employee

Table 3: Interviews with ICT workers

Name	Age	Gender	Role	Contract
Marta	27	F	collaborator to art websites	internship in art journalism
Mario	36	M	consultant art publishing	*cocopro*
Renata	38	F	architect	*cocopro*
Desiree'	48	F	architect and graphic designer temporary contract	architect and graphic designer temporary contract
Antonella	41	F	architect	*cocopro*

Table 4: Interviews with graphic art workers, conducted at Artissima

Name	Age	Gender	Role	Contract
Paul	50	M	project manager, video productions	cooperative member
Silvana	34	F	videomaker	*cocopro* in Web TV Università
Catia	30	F	freelance photographer	*cocopro* in Web TV Università
Sandra	28	F	video audio project manager	internship at VRMMP
Omar	25	M	master student DAMS	internship in video productions
Gabriele	26	M	master student DAMS	*cocopro*
Marla	24	F	multimedia graphic designer	*cocopro*
Beppe	25	M	set designer	*cocopro* in Web TV Università
Elena	25	F	digital archivist, post-production	*cocopro* in Web TV Università

Table 5: Interviews at Turin Film Festival and Virtual Reality Multi Media Park (VRMMP)

Name	Age	Gender	Role	Contract
Ennio	31	M	environmental engineer	temporary researcher, polytechnic
Eleonora	32	F	historian	temporary researcher, Turin University
Fabio	29	M	engineer	temporary researcher, polytechnic
Giovanni	29	M	sociologist	multi-contract, Turin University
Diego	43	M	translator	co-participant in a translation company
Valerio	39	M	researcher	autonomous worker in a research company
Loris	39	M	medical researcher	temporary researcher
Frank	40	M	English teacher	consultant
Valentina	26	F	teacher	multi-contract

Table 6: Interviews at Universities, polytechnic and cultural institutions

references

Alquati, R. (1993) *Per fare conricerca*. Milano: Calusca

Alquati, R. (1997) *Lavoro e attività. Per un'analisi della schiavitù neomoderna*. Roma: Manifestolibri.

Alquati, R. (2003) 'Società iperindustriale e riproduzione della capacità umana', unpublished working paper.

Armano, E. (2010a) *Precarietà e innovazione nel postfordismo. Una ricerca qualitativa sui lavoratori della conoscenza a Torino.* Bologna: Odoya.

Armano, E. (ed.) (2010b) 'Racconti di precarietà e innovazione nella società della conoscenza. Interviste biografiche raccolte tra l'autunno del 2006 e la primavera del 2007 durante gli eventi della Torino postfordista' [http://www.ilibridiemil.it/images/File/Emil_Ricerca/2010/Armano_interviste.pdf]

Beck, U. (2000) *The brave new world of work.* Cambridge: Polity press.

Bertaux, D. (1998) *Les récits de vie.* Paris: Editions Nathan.

Bologna, S. and D. Banfi (2011*) Vita da freelance. I lavoratori della conoscenza e il loro futuro.* Milano: Feltrinelli.

Boltanski, L. and E. Chiapello (1999) *Le nouvel esprit du capitalisme.* Paris: Gallimard

Butera, F., et al. (2008) *Knowledge working. Lavoro, lavoratori e società della conoscenza.* Milano: Mondadori Università.

Carr, M. and M.A. Chen (2010) 'Globalization and the informal economy: How global trade and investment impact on the working poor', background paper commissioned by the ILO Task Force on the Informal Economy. Geneva: International Labour Office.

Castells, M. and P. Himanen (2002) *The information society and the welfare state.* New York: Oxford University Press.

Cohen, D. (2004) *Our modern times.* The *nature of capitalism in* the *information age.* Cambridge, MA: MIT Press.

Consiglio italiano per le scienze sociali (2007) *Libro bianco per il nord ovest.* Roma: Marsilio.

De Maziere, D. and C. Dubar (1997) *Analyser les entretiens biografiques.* Paris: Nathan.

Florida, R. (2005) *The flight of the creative class: The new global competition for talent.* New York: Harper Business.

Formenti C. (2011) *Felici e sfruttati. Capitalismo digitale ed eclissi del lavoro.* Milano: Cortina.

Gorz, A. (2005) 'La personne devient une enterprise: note sur le travail de production de soi'. [http://ecorev.org/spip.php?article382].

Gorz, A. (2003) *L'immatériel. Connaissance, valeur et capital.* Paris: Galilée.

Granovetter, M. (1985) 'Economic action and social structure: The problem of embeddedness', *American Journal of Sociology*, 91(3): 481-510.

Himanen, P. (2003) *L'etica hacker e lo spirito dell'età dell'informazione.* Milano: Feltrinelli.

Lessard, B. and S. Baldwin (2000) *Net slaves: True tales of working the web.* New York: McGraw-Hill.

Lovink, G. (2012) *Ossessioni collettive. Critica dei social media.* Bologna: Egea

Lupton, D. (ed.) (1999) *Risk and sociocultural theory: New directions and perspectives.* Cambridge: Cambridge University Press.

Marazzi, C. (1994) *Il posto dei calzini.* Bellinzona: Casagrande.

Morini, C. (2010) *Per amore o per forza. Femminilizzazione del lavoro e biopolitiche del corpo.* Verona: Ombre corte.

Petti, A. (2007) *Arcipelaghi e enclave.* Milano: Bruno Mondadori.

Pizzorno, A. (1999) 'Perché si paga il benzinaio. Note per una teoria del capitale sociale', *Stato e mercato*, 57: 373-394.

Pizzorno, A. (2006) 'Dalla reputazione alla visibilità', *Sociologia del lavoro*, 104: 236-263.

Pizzorno, A. (2007) *Il velo della diversità. Studi su razionalità e riconoscimento*. Milano: Feltrinelli.

Portes, A. and W. Haller (2005) 'The informal economy', in N. Smelser and R. Swedberg (eds.) *Handbook of Economic Sociology, 2nd edition*. Russell Sage Foundation.

Regalia, I. and M.E. Sartor (1992) *Le relazioni di lavoro nel terziario avanzato*. Milano: Egea.

Ross, A. (2003) *No-collar: The human workplace and its hidden costs*. New York: Basic Books.

Rullani, E. (2005) 'Economia del rischio e seconda modernità', in S. Maso (ed.) *Il rischio e l'anima dell'Occidente*. Atti del Convegno, Cafoscarina: Venezia.

Sennett, R. (1998) *The corrosion of character: The personal consequences of work in new capitalism*. New York: Norton.

Sennett, R. (2008) *The craftsman.* New Heaven: Yale University Press.

Shirky, C. (2009) *Here comes everybody: The power of organizing without organizations*. New York: Penguin.

Sproull, L. and S. Kiesler (1991) *Connections: New ways of working in the networked organisation*. Cambridge: MIT Press.

Touraine, A. (2006) *Le monde des femmes*. Paris: Fayard.

World Bank Report (2010) 'Shadow economies all over the world'. [http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2010/10/14/0001 58349_20101014160704/Rendered/PDF/WPS5356.pdf].

the author

Emiliana Armano has a PhD in Labour Studies from the Department of Social and Political Sciences at the State University of Milan. She researches on informational capitalism, knowledge work and precariousness with a social inquiry and co-research methodological approach. With Annalisa Murgia she has recently published two volumes of *Mappe della precarietà* (2012, Bologna: Odoya).
E-mail: emi_armano@yahoo.it