



OPINION n°2014-28

**« ETHICAL ISSUES AFFECTING PUBLIC RESEARCH
PROFESSIONS UNDERGOING CHANGE »**

Approved at the plenary session of February 2014



I. SUMMARY

Over the last twenty years or so, public research has been undergoing deep-rooted change. While the motivation and enthusiasm of researchers and faculty members have generally remained intact, the proliferation of tasks and the constraints associated with their job mean that the time devoted to research per se is decreasing, and that tensions and disparities may appear within teams. The time spent on seeking funding has increased considerably, administrative and management tasks are increasingly burdensome, growing links with the private sector can potentially lead to fraud, and the increasing attention rightly paid to society's expectations and concerns is very time-consuming. Assessment procedures, which focus on research results, do not sufficiently take into account the multiple tasks expected of researchers and faculty members. Moreover, the methods used for the assessment itself are sometimes open to criticism, in particular by the inappropriate use of bibliometric indicators, the excessive importance given to publications in the "major" journals of "general interest" and the accentuation of trends in the choice of subjects, with a decrease in risk-taking.

Considering that these difficulties may be responsible for conflicts of values or conduct not in line with scientific integrity, COMETS makes the following recommendations:

1. In order to increase the time devoted to research without jeopardising laboratory resources, it is important for laboratory directors and team leaders to conduct a reasoned policy of responding to calls for tender and to ensure that all their requests are consistent with the teams' core research themes.
2. To avoid discouraging researchers facing the time-consuming complexity inherent to compiling applications and following up certain research projects (European contracts, French funding agency ANR, etc.), adding value to their work (drafting of patents) and administrative tasks (reports for the French High Council for Evaluation of Higher Education and Research (HCERES), etc.), COMETS recommends that the CNRS create qualified and appropriate administrative and scientific support, which is currently insufficient.
3. Risk-taking should be encouraged. To this end, it is important not to penalise researchers with insufficient publications as a result of such risk-taking; qualitative assessments should in this case be used to ensure that their scientific projects are moving ahead smoothly. In addition, recurrent endowments must be generous enough to act as a science policy tool and an incentive for risk-taking. (See the COMETS Opinion of 2010).
4. Qualitative peer review of research should remain the rule. It should be conducted using criteria that take into account the situation of the field of research, the context in which it is being conducted and, where relevant, its character at the interfaces. No assessment should rely exclusively on a purely quantitative count based on bibliometric indicators or the number of patents. Similarly, the temptation to give excessive importance to the "major" journals of "general interest" must be controlled.
5. COMETS considers that the dissemination and popularisation of knowledge, as well as its exploitation to create value by developing innovations, are increasingly essential tasks among researchers. Consequently, it recommends that research findings should not be exclusively prioritised during assessments, and that these tasks should be integrated more equitably.
6. In order to avoid tensions detrimental to collaboration between researchers and faculty members within research units and teams, it is essential to take into account differences in status and to apply a principle of equity to assessments. Acknowledging that research

does not occupy an equivalent place in each profession, assessments should be carried out according to tailored criteria. In a context of international competition for both training and research, the quality of tuition must be considered on the same footing as the quality of research during assessments.

7. Preventive action must be taken to avoid tensions linked to participation in multiple activities and their consequent remuneration. Organisations should provide staff with a summary of the applicable rules (percentage of time, maximum remuneration) and enforce them. Researchers and faculty members alike should indicate in their title and work records (and in the annual CRAC reports in the case of researchers) their various paid activities, whether or not they are related to the subject of their research.
8. COMETS recommends that unit directors receive training to enable them to identify which secondary activities of researchers in their laboratories are authorised in the realm of consultancy and expert appraisal, and which are not.
9. COMETS suggests that the CNRS ask the Observatoire des Sciences et Techniques (OST) for a statistical survey on accumulated remuneration according to discipline, location and the nature of activities.



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II. FORMAL INTERNAL REQUEST

A career as a researcher¹ is rightly presented as the fruit of a vocation that combines creativity and the desire to contribute to the development of knowledge. These motivations are still present, but the changing landscape of higher education and research, as well as the new demands of society, have led over the last two decades to profound changes in the way in which this profession is exercised. Although the basic tasks have not changed, reforms have continued to diversify them. It is often up to laboratory staff to find the funding for their research, as well as carrying out this research and, in many cases, additional teaching duties. They are increasingly encouraged to forge close links with companies, invest in value creation activities and develop expert appraisal and consultancy work while at the same time contributing to the dissemination of scientific knowledge. Such activities all have their legitimacy and usefulness, but they also leave less time for research itself. Moreover, the proliferation of these activities with sometimes contradictory aims and the increasing constraints associated with their jobs are often responsible for conflicts of values or conduct not in line with scientific integrity. COMETS would like to draw attention to certain ethical issues raised by this transformation in research careers that affect all those involved in the profession, whether they are a statutory civil servant or whether they have an individual work contract, which is a less secure status. (Such contracts may be either permanent or fixed-term, and be established under either public or private law. Indeed, some research players are even self-employed, working freelance.) This Opinion mainly concerns researchers and faculty members with a statutory civil servant status.

The greatest tensions arise between the principles that drive their activities and those that guide their assessment. Assessment procedures focus mainly on knowledge production and research results, while the time devoted to research itself is constantly shrinking in relation to other tasks. Inequalities arise within teams when colleagues are subject to different rules. Moreover, in a context of strong international competition, the emphasis on excellence and performance—as well as the sometimes excessive use of bibliometric indicators—tend to bias assessments.

A second concern is the practice of participating in a variety of activities and generating remuneration from different sources. Since the late 1980s, lawmakers have established rules encouraging researchers to participate in the country's economic development. A research value creation policy has thus been developed with relative success. Although the opportunity for researchers to engage in secondary activities constitutes a valuable gateway to the outside world, it can also become a source of inequality if the main activity is neglected and of potential abuse if it is not controlled and limited².

At a time when brilliant young students are reluctant to enter research—often attracted by other, better-paid sectors or more clearly defined career paths—COMETS makes recommendations here concerning the harmonisation and coherence of research tasks and projects, in order to maintain their attractiveness and encourage more and more new vocations.

¹ The term “researcher” herein covers both researchers who are also faculty members and those who are not

² This Opinion is issued within the legal framework in force on the date of its drafting. It does not take into account the terms of the bill on ethical standards and the rights and obligations of civil servants (RDFX1314513L), submitted to the National Assembly on 17 July 2013. If adopted as it stands, this bill is likely to modify certain elements of the context of this Opinion, in particular as regards holding more than one position or conducting secondary activities.

III. ANALYSIS

A. Identical tasks for researchers with different statuses and constraints

Numerous tasks related to scientific research to a greater or lesser degree are incumbent on the staff of public research institutions. These public research employees—understood in the broadest sense of the term³—legally contribute, under the terms of the French Research Code, to the national interest. Their duties include: a) The development of knowledge; b) Its transfer to and application in companies and in all areas contributing to the progress of society; c) The dissemination of information and scientific and technical culture throughout the population, especially among young people; d) Participation in initial and continuing training; e) The administration of research; f) Scientific expert appraisal. (See Art. L411-1).

The remit is the same whether the research is carried out by researchers from public scientific and technological institutions (EPST) or by faculty members with university or university hospital status. However, although they work side by side in the same units, the importance of research in the development of their careers and the time they devote to it differ according to their status (*see Annex 1*). For CNRS researchers, research is a statutory obligation in return for their salary, and any deficiencies may give rise to redundancy proceedings (Decree no. 84-1185 Art. 5). Decree No. 2009-460 of 23 April 2009 on the statutory provisions applicable to faculty members introduced the principle of modulation in the services provided; the intensity of research activity, assessed by the production of publications, determines their teaching workload. However, tuition and educational administration tasks have become much more time-consuming in the last twenty years, particularly since the introduction of university self-governance. Young faculty members, who are most affected, are often faced with the dilemma of publishing more or teaching more. While tuition and research should balance each other out and provide mutual support, these activities are gradually being fragmented, thus running the risk of leaving a fraction of them out of what is the very core of their profession. They are also likely to induce behaviour that does not comply with research integrity.

B. The time devoted to research per se is reduced by the proliferation of tasks

Apart from specific research tasks, all the statutory activities of research staff have their legitimacy. However, they also reduce the time that can be devoted to research itself⁴.

³ Article L.112-2 of the French Research Code: "Public research is structured through public facilities, including public higher education institutions, public research and health institutions, and public corporations".

⁴ It would be beneficial if, within research units, the rules on distributing tasks of common interest were based on collegiality and the principle of dissociation between grades and functions. This more equitable organisation would provide sustainable and productive research time for all. At the same time, it would strengthen the concepts of sharing, solidarity and the common good.

- *The time spent seeking funding has increased considerably.* The main reason for this is that, like everywhere else in the world, project-oriented research has become the predominant source of funding. National contracts using public or private funds, or European contracts, are now taking precedence over funding by recurrent appropriations. This development reflects the growing desire of States to channel part of research activities with a view to an expected benefit for the development of the economy and employment⁵. The positive side of this development is the undeniable increase in the resources made available to certain teams. Moreover, the preparation of a funding request to an agency is a forward-looking and therefore enriching intellectual activity that is an integral part of the research work. However, under the French funding system contracts are too short, unsuccessful applications too frequent and the funding available too limited, forcing researchers to increasingly respond to calls for tender. This can weaken the overall coherency of a team's project, and leads to a loss of time and energy that is detrimental to scientific activity, especially if you count the time spent frequently drafting very detailed applications and assessing the projects of other teams also responding to these calls for tender. It should also be noted that the final a posteriori assessment of the work carried out under the call for projects is almost never carried out, which can lead to a loss of information on the merits of the call in question and may make some researchers lose their sense of responsibility towards the task within the framework of the overall project. In fact, this paradigm shift imposes on research a time frame centred on the short term, which fosters a sometimes unrealistic expectation of future results and, above all, minimises risk-taking.

- *The proliferation of administrative and management tasks in the field of research* is a consequence of the increasing involvement of researchers and faculty members in the functioning of universities that have become self-governing. In addition, it has been fuelled by the creation of macrostructures nested within the research and higher education system (PRES, RTRA, competitiveness clusters, Labex, Idex, Equipex and, more recently, communities gathering several universities). Built through a twofold bottom-up and top-down approach (with information originating from small research groups in the first case and governance of a hierarchical nature in the second), these structures require an increasing contribution from research staff, who often sit on scientific and administrative boards, for example. In addition, the time-consuming complexity inherent to compiling applications and following up many different research projects (regional or European contracts, French funding agency ANR, etc.), adding value to their work (drafting of patents), and administrative work (HCERES reports), etc.) weigh heavily on researchers, who cannot rely on high-level administrative support, which is generally insufficient in terms of both numbers and qualifications.

- *Growing links with the private sector* are strongly encouraged to stimulate the innovation and creativity of researchers in fields with a high economic impact. Although regulated by successive laws (see §D), these activities—which often serve as a beneficial passport to business—may divert some researchers from their core activity, research. Their proliferation may have consequences on the way research is undertaken⁶ with, in the event of misconduct, deviations from the profession's ethical standards or even from research integrity itself in the event of a funding effect whereby the funder influences the results and their interpretation.

- *The growing attention paid to society's expectations and concerns* has led to the development of specific activities for researchers and faculty members. They involve expert appraisal, undertaken either as an individual or on behalf of an organisation, participation in public debates and voluntary work in learned societies. Outreach (dissemination of results to a wide audience) is now an integral part of the researcher's life. It has been made obligatory by funding agencies such as the NSF in the USA, and is recommended

⁵ See the COMETS Opinion of 2010, “Aspects éthiques du financement public de la recherche sur projet” [Ethical aspects of the public funding of project-oriented research].

⁶ The risk of this happening varies according to the discipline involved. In chemistry or engineering, for example, the vast majority of contractual activities with companies do not lead to researchers being paid, but to an increase in laboratory resources and a broadening of research topics.

by the European Research Council (ERC). It should also be noted that new provisions concerning universities imply that their staff must engage in the continuing training of secondary school teachers.

Members of the same team—researchers, faculty members, or staff supporting research activities—are by no means all equally concerned by these activities, but they weigh heavily on the work of the group as a whole and can also be a source of tension.

C. Assessment procedures do not sufficiently take into account the multiple tasks expected of researchers and faculty members

- *Assessment focuses primarily on the production of knowledge and research findings.* Although CNRS researchers are required to report on their multiple activities, either for the purposes of biennial (CNRS) and five-year (HCERES) assessments, or for administrative purposes (via the annual CRAC report within the CNRS), there is no link between different tasks, which are presented in these reports as an unranked list⁷. Moreover, without it being clearly stated, researchers and faculty members are still mainly assessed on research results, which on the one hand tends to introduce marked inequality and injustice between staff in teams and laboratories, and on the other hand can lead to practices that are not in keeping with research integrity (such as honorary signatures on publications or the exclusion from laboratory organisation charts of staff considered not to be active authors).

- *Quantitative assessment open to criticism.*

The assessment of researchers, projects, publications, research units and institutions now plays an important role in the life of researchers. All aspects of research are subject to peer review which, since the 1990s, has increasingly relied on the use of bibliometrics, which is supposed to make it easier and more reliable (see the report published by the Academy of Sciences in 2011).⁸ This assessment—based on three or four metrics (number of publications, journal impact factor, number of citations and h-index)—has become a “weapon of mass citation”⁹, raising ethical issues and even influencing the way research is undertaken.¹⁰ It should be noted that the French Academy of Sciences had already, in its 2011 report, reaffirmed the primacy of the direct evaluation of scientific work based on original publications, and called for a “framework” for bibliometrics.¹¹

Yet, in addition to the simple counting of the number of publications, assessment increasingly resorts to the journal impact factor (IF), considered to be an a priori index of the work's scientific quality. However, due to the dissolution effect inherent in the IF (which is based on averages) and its excessively short period (2 years), this indicator does not give an accurate idea of the real quality of a publication or the innovative nature of the research, which must be assessed over the long term. Publication in a “major” journal open to a broad audience is by no means a guarantee of the quality of the research carried out, especially as the selection of papers is not only the consequence of a peer review but often of the choice of the editor-in-

⁷ As can be seen from the template of the annual report to be filled in by INSHS researchers (Ribac), which is more akin to a real-time listing of activities than a synopsis of research activities.

⁸ On the proper use of bibliometrics to evaluate individual researchers. French Academy of Sciences report of 17 January 2011. <https://www.academie-sciences.fr/en/Advice-Notes-and-Reports/on-the-proper-use-of-bibliometrics-to-evaluate-individual-researchers.html>

⁹ A. Molinié and G. Bodenhausen, “Bibliometrics as weapons of Mass Citation”, *Chimia* 64 (2010) 78-89.

¹⁰ At the European Summer School for Bibliometrics (11-13 September 2011, Vienna, Austria) it was repeatedly stated that “quick and dirty” bibliometrics should be avoided, i.e. a quantitative, hasty and detrimental assessment.

¹¹ It is worth recalling that Eugene Garfield, founder of the Institute for Scientific Information, ISI, indicated that his Science Citation Index (SCI) was not intended for conducting quantitative studies or calculating impact factors (E. Garfield, 5th International Conference on WIS & Tenth COLLNET Meeting, 2009, Dalian, China).

chief, attracted by trending topics. It is even cause for concern that the editors of these "major" journals end up taking the place of funding agencies in science policy. Yet publishing even once or twice in these flagship journals is always noticed in an evaluation and invariably gives a boost to one's career, whereas publishing systematically in specialised journals is often criticised, or at best ignored during assessments.¹²

Anxious to rectify this situation and to combat deterioration in the quality of research papers, the international community has rallied. Publishers of prestigious scientific journals, institutions and learned societies from all over the world have launched an appeal to stop using the impact factor when assessing researchers, filling positions or allocating funding. At the time of writing (January 2014), this appeal—known as the San Francisco Declaration on Research Assessment (DORA)—has been signed by more than 10,000 researchers¹³.

The number of citations referring to papers and the h-index are also increasingly being considered in assessments. As a more reliable indicator of the intrinsic quality of research, the number of citations referring to a paper should, however, be considered with some hindsight and over the long term. For the same scientific quality, the number of citations referring to papers (and therefore the resulting h-index) depends above all on the size of the communities concerned and is very sensitive to trends. Some seminal papers are rarely cited, and some prestigious scientists (winners of the Nobel prize or Fields medal) have modest bibliometric performances¹⁴. Some very original papers may be cited late, while other less original ones are cited quickly because of the size of the community, trends, the errors they contain or the controversy they provoke. Thematic mobility, which can lead to a decline in performance over several years, and multidisciplinary, which often places a researcher on the fringes of well-established communities, are not conducive to achieving well-ranked bibliometric performance. On the contrary, being fully committed in the long term to a particular scientific topic can ensure a regular flow of publications and a network of citations. This creates a tendency towards conformist thinking and reduces the taste for creative risk-taking. There is also a tendency in some disciplines to cite journals instead of the original papers, to the detriment of the first authors.

- *The abusive practices associated with quantitative assessment.*

The importance attached to bibliometric indices is obviously not unknown to researchers, who are tempted to adapt their behaviour in order to artificially optimise these figures. Publishing too quickly, without taking the time to push knowledge development further, is an increasingly common temptation. Similarly, the practice of "salami slicing" and the excessive use of more or less honorary co-authorship signatures are well known. These abusive practices have recently been the subject of editorials in various widely read journals¹⁵. Other practices that are not in keeping with research integrity may result from a concern for bibliometric performance¹⁶, as evidenced by the dramatic increase in the number of research papers retracted due to errors and in serious cases of plagiarism or fraud¹⁷. Recommendations were published in 2013 in the COMETS guide "Integrity and responsibility in research practices", which aims to raise awareness among research staff of the good practices to be adopted, particularly in terms of publications¹⁸.

¹² *The attraction that these widely-read journals exert on researchers can be better understood when we read in the recommendations of AERES, the French evaluation agency for higher education and research, that a single publication within a four-year period in Nature, Cell or Science is enough for a researcher or faculty member in the life sciences, health or environment sector to be considered an "active" author.*

¹³ <http://am.ascb.org/dora/>

¹⁴ One example would be that of Peter Higgs, who won the Nobel Prize in Physics 2013.

¹⁵ See, for example P. Greenland & PB Fontanarosa "Ending honorary authorship", *Science*, 2012, 237, 1019

¹⁶ Opinion 2012-26: "The need for procedures to be set up within the CNRS to foster research integrity"

¹⁷ retractionwatch.wordpress.com

¹⁸ <http://www.cnrs.fr/comets/>

- *The assessment of partnerships with the economic sector.*

It is now common practice to assess these activities by counting the number of patents filed. It should be noted that not all patents are of the same importance or quality. Furthermore, part of the value creation activity can add value without necessarily involving patents, which can be easily circumvented. Some transfers of know-how to SMEs, or research results in a particularly competitive field, in particular, are not necessarily protected: they must therefore be assessed in some other way than through an inventory of patents.

D. Closer supervision of participation in multiple activities

Successive French governments have emphasised the value creation aspect of public research so as to drive innovation and stimulate the country's economic progress. They have also seen it as a way to improve the financial situation of research staff. A reminder of the various forms of value creation is necessary because they raise ethical issues of unequal scope (see *annex*).

Value creation is defined by the French research assessment committee, CNER, as a process consisting in "adding value to a product, process, tool or device resulting from a thought process, research, experimentation or production, followed by the transfer stage"¹⁹. In the original formulation of the 1982 Act, value creation was the final step in a process that went from discovery to development, with institutions having few means to commercially exploit discoveries²⁰.

This form of value creation requires an amendment to the status of civil servants, as it is their status that determines their obligations as government employees, i.e. exclusivity and disinterestedness, according to the principles laid down by the French Council of State in 1926. Indeed, the French law on the rights and obligations of civil servants²¹ lays down the principle of a ban on combining public employment with a private paid activity. However, many reforms in the late 1980s undermined these principles of disinterestedness and exclusivity among research personnel. Over the course of evolving legislation and transformations, various situations involving multiple positions or activities have been authorised, whether related or unrelated to the researchers' remit, and including value creation activities.

1. *Activities related to their remit* refer to tasks listed in the statutes, such as tuition, consultancy and expert appraisal²². These activities may raise questions of independence (as in the case of expert appraisal), or of the duty of reserve (in the case of consultancy).
2. *Value creation activities* raise questions of research marketability. They cover three situations: the creation of a company, scientific contribution to a company, and participation in a company's governing body.
3. Finally, since the decree of 2 May 2007, activities that go beyond the scope of research are authorised, thus *extending the possibility of conducting activities related to a researcher's remit to include those that are not*. The purpose of this extension is purely financial. It authorises, if not encourages, civil servants to look for new sources of income outside their profession. These are

¹⁹ CNER, *L'évaluation de la recherche. Réflexions et pratiques du comité [Assessing research. Committee deliberations and practices]* 1990-1993, Paris 1994, La Documentation Française

²⁰ Institutions could add value directly through either a subsidiary or participation in a Private Interest Group, or they could grant an operating licence to a private company (the most common solution).

²¹ Paragraph 1 of Article 25 of Act no. 83-634 of 13 July 1983 (known as the 'Le Pors' Act)

²² In some cases (such as copyright), their funding may raise intellectual property issues, which are governed by specific texts.

expert appraisal or consultancy activities, to be clearly distinguished from joint undertakings.

4. All these activities raise ethical issues, which have not been given sufficient consideration. They are handled either by the administrations concerned or by the French Civil Service Ethics Commission, without being resolved satisfactorily. The administration is at the forefront in controlling activities related to a researcher's remit, with *tuition* being the most common of such activities. Whenever they are remunerated, they are subject to authorisation by the administration, and in the case of the CNRS, by the Regional Delegates. At the CNRS, both *consultancy*, provided for by the Decree-Law of 29 October 1936, and *expert appraisal*, added in 2004, have been subject to fairly strict rules of procedure²³ (see *Annex 1*). "In granting such an authorisation, where appropriate, the administration must ensure that the public service continues to function normally and that its intellectual property rights are protected (e.g. by concluding a partnership contract with the company(ies) or organisation(s) consulting one of its employees)".

The decrees of 2 May 2007 and 20 January 2011 authorise certain secondary activities unrelated to the researcher's statutory remit—activities previously covered by the rules on holding more than one position and/or conducting several activities concomitantly—to be carried out without any time limit. In this case, the activity is carried out with the authorisation of the administration to which the employee belongs, which then verifies compliance with the profession's ethical standards. Within the CNRS, researchers request an authorisation for secondary activities from the Regional Delegate. For academics, the HR Department examines the application and the President of the university decides on the answer. However, both CNRS delegations and university departments appear ill-equipped to assess the compatibility of these new activities with a career in research. In particular, they have difficulty determining whether this activity could undermine the normal functioning, independence or neutrality of the public service.

Finally, it is the Civil Service Ethics Commission that since 1995 has been carrying out a number of monitoring assignments related to the activities of researchers in the private sector (see *Annex 1*). In its report for 2010, the Commission notes that the number of referrals to the Commission for an opinion on a request for a secondary position or activity has continued to increase and now significantly outweighs the number of requests for an opinion on ceasing an activity. The first case now represents over 70% of the Commission's workload. It specifies that all applications for secondary activities are required to be referred to the Commission, whereas cessation of activity is not. Furthermore, the success of the "auto-entrepreneur" *self-employed status* in France has greatly contributed to the increase in requests²⁴. In other words, while the pursuit of commercial activities can now be considered to be well regulated by the Commission, secondary activities remain for the most part outside its control, which raises ethical issues about the conditions under which employing organisations grant their authorisations.

E. Conclusions

In short, public research is undergoing deep-rooted change. The motivation and enthusiasm of researchers have generally remained intact. The time devoted to research per se is significantly reduced by the need to find external sources of funding, the complexity inherent to compiling applications, and the time spent on administrative and management tasks in addition to tuition, all the while being subject to the pressure of individual assessments that focus on research and are biased by inappropriate use of bibliometric

²³ *Practice direction no. INS030001BPC of 31 July 2003.*

²⁴ *Ibid*, p. 49.

indicators. Moreover, these difficulties introduce disparities between staff, reinforce individualism and lead to tensions within teams. The result is an exaggerated and artificial hierarchisation of researchers, an accentuation of trends with a decrease in risk-taking and an increase in conduct not in line with scientific integrity. Finally, the increasing number of opportunities now open to researchers and faculty members to engage in secondary activities can become a source of abuse if it is not controlled and limited, and a source of inequality if the main activity is neglected.



IV. Recommendations

COMETS reiterates that the essential purpose of research is to be a creative activity leading to new knowledge and novel applications. The committee emphasises that most research is conducted in joint research units, where faculty members and researchers work side by side. It insists on the need to give both professions the means to carry out quality research, by striking a better balance between the time devoted to research and that devoted to obtaining funding or to tuition, assessments and administrative tasks.

A. Recommendations on the activities and assessment of researchers

1. In order to increase the time devoted to research without jeopardising laboratory resources, it is important for laboratory directors and team leaders to conduct a reasoned policy of responding to calls for tender and to ensure that all their requests are consistent with the teams' core research themes.
2. To avoid discouraging researchers facing the time-consuming complexity inherent to compiling applications and following up certain research projects (European contracts, the ANR, etc.), adding value to their work (drafting of patents) and administrative tasks (HCERES reports, etc.), COMETS recommends that the CNRS create qualified and appropriate administrative and scientific support, which is currently insufficient.
3. Risk-taking should be encouraged. To this end, it is important not to penalise researchers with insufficient publications as a result of such risk-taking; a qualitative assessment should in this case be used to ensure that their scientific project is moving ahead smoothly. In addition, recurrent endowments should be generous enough to act as a science policy tool and an incentive for risk-taking. (See *the COMETS Opinion of 2010*).
4. Qualitative peer review of research should remain the rule. It should be conducted using criteria that take into account the situation of the field of research, the context in which it is being conducted and, where relevant, its character at the interfaces. No assessment should rely exclusively on a purely quantitative count based on bibliometric indicators or the number of patents. Similarly, the temptation to give excessive importance to the "major" journals of "general interest" must be controlled.
5. COMETS considers that the dissemination and popularisation of knowledge, as well as its exploitation to create value by developing innovations, are increasingly essential tasks among researchers. Consequently, it recommends that research findings should not be exclusively prioritised during assessments, and that these tasks should be integrated more equitably.
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B. Recommendations on the plurality of activities and/or positions

7. Preventive action must be taken to avoid tensions linked to participation in multiple activities and their consequent remuneration. Organisations should provide staff with a summary of the applicable rules (percentage of time, maximum remuneration) and should enforce them. Researchers and faculty members alike should indicate in their title and work records (and in annual CRAC reports in the case of researchers) their various paid activities, whether or not they are related to the subject of their research.
8. COMETS recommends that unit directors receive training to enable them to identify which secondary activities of researchers in their laboratories are authorised in the realm of consultancy and expert appraisal, and which are not.
9. COMETS suggests that the CNRS ask the Observatoire des Sciences et Techniques (OST) for a statistical survey on accumulated remuneration according to discipline, location and the nature of activities.



V. ANNEX 1

This annex takes up and clarifies some of the points developed in the analysis, with particular emphasis on their legal aspect²⁵.

A. The time trade-off for research professions under pressure

Researchers and faculty members in the public sector are assigned a research remit common to them both and listed among the tasks that differ from one profession to the next (§1-1). This proliferation of tasks creates constraints in terms of available time (§1-2).

A single research remit for different professions within an expanding public research sector

Article L. 112-1 of the French Research Code (the version resulting from the Act of 18 April 2006), lists the five objectives of public research:

- a) Develop and advance research in all fields of knowledge;
- b) Add value to research results;
- c) Share and disseminate scientific knowledge;
- c(i)) Develop the ability to conduct expert appraisals;
- d) Offer training in and through research.

The amended Act of 2013 has kept only the objective indicated in point a), and has redirected the researcher's focus to more operational purposes, at the risk of diluting the main remit, focused on knowledge. Amended Article L.112-1 now indicates six objectives:

- a) Develop and advance research in all fields of knowledge;
- b) Add value to research results for the good of society, based on innovation and technology transfers;
- c) Share and disseminate scientific knowledge through open access formats as a priority;
- c(i)) Develop the ability to conduct expert appraisals and support both associations and foundations acknowledged as being of public utility, and public policies designed to meet societal challenges and social, economic and sustainable development needs;
- d) Offer training in and through research;
- e) Organise open access to scientific data.

Public research and higher education institutions foster the development of cooperative projects with associations and foundations acknowledged to be of public utility. They help to promote participative research and the development of France's competencies in technological and social innovation. Such cooperative projects are carried out while respecting the independence of researchers and, in the absence of clauses to the contrary, on a non-profit basis. The research conducted within the framework of such cooperative projects is, in the absence of clauses to the contrary, made public and accessible. Public research employees—understood in the broadest sense of the term²⁶—contribute to the national interest.

²⁵ Act no. 2013-660 of 22 July 2013 amended several provisions of the Act of 18 April 2006. We will base comments on the initial version, indicating the changes made by the most recent Act.

²⁶ Article L.112-2 of the French Research Code: "Public research is structured through public facilities, including public higher education institutions, public research and health institutions, and public corporations".

Their remit includes, according to Article L. 411-1 of the French Research Code (unamended by the Act of 2013):

a) the development of knowledge; b) its transfer to and application in companies and in all areas contributing to the progress of society; c) the dissemination of information and scientific and technical culture throughout the population, especially among young people; d) participation in initial and continuing training; e) the administration of research; f) scientific expert appraisal.

While the research remit is the same whether it is carried out by researchers or faculty members, its *importance* differs according to each one's status.

The remit of researchers from public scientific and technological institutions (EPST) is defined by both Articles L. 112-1 and L. 411-1 of the French Research Code mentioned above²⁷.

Faculty members, however, are bound by a *broader remit* defined by Article L. 952-3 of the French Education Code:

The functions of faculty members shall be exercised in the following fields: a) Tuition, including initial and continuing training, tutoring, guidance, counselling and monitoring of knowledge; b) Research; c) Dissemination of knowledge and relations with the economic, social and cultural environment; d) International cooperation; e) Administration and management of the institution. (...) The decree of 23 April 2009, which governs their functions, specifies that they operate in the fields listed in articles L. 123-3 and L. 952-3 of the Education Code and L. 112-1 of the Research Code.

From this combination of texts, it is apparent that although researchers and faculty members share the same remit as regards furthering the national interest, and find themselves side by side in their research units, the priority given to their actions while fulfilling this remit differs, which in turn leads to differences in the time spent on research. For researchers, research is a statutory obligation in return for their salary, and any deficiencies may give rise to redundancy proceedings (Decree no. 84-1185 Art. 5 in the case of CNRS researchers). For faculty members, since Decree no. 2009-460 of 23 April 2009 on the statutory provisions applicable to faculty members, which introduced the modulation of services, research time is taken into account to determine tuition time.

In practice, the assessment of staff, researchers or faculty members focuses on their research performance, often measured in bibliometric terms, without serious consideration of the time spent on other tasks. The result is an incentive to optimise research time by focusing on topics that are *profitable* in terms of publications, but which invariably leads to the avoidance of risk-taking and an erosion of curiosity and critical thinking.

B. The time trade-off for research professions that are losing their value

It is customary in research to speak of a "vocation", and to pretend to ignore the financial difficulties encountered by researchers and faculty members who find themselves with low salaries. This low remuneration is found both at the beginning and at the end of their careers, for those who have not been

²⁷ Decree no. 83-1260 of 30 December 1983, as amended, setting the statutory provisions applicable to the civil servants of public scientific and technological institutions, Art. 3 "Civil servants of public scientific and technological institutions contribute to the accomplishment of the research remit defined by the aforementioned law of 15 July 1982. They take part in initial and continuing training mainly in research organisations and higher education institutions."

able to obtain the promotions and pass the examinations that allow them to advance on the index scale. Asking the question of the "value" of research other than in terms of quality may seem provocative, but many researchers and faculty members ask it, and more importantly, it is a source of ethical tension in the pursuit of a career. Unable or unwilling to improve staff remuneration, successive governments have emphasised the possibilities of financial exploitation of research findings (§2-1). The diversity of these forms of value creation raises ethical difficulties of unequal scope, to which regulation by the Civil Service Ethics Commission provides only imperfect answers (§2-2).

1. The risks involved in adding value to research results

Value creation is defined as a process consisting in "adding value to a product, process, tool or device resulting from a thought process, research, experimentation or production, followed by the transfer stage"²⁸. In the original formulation of the 1982 Act, value creation was the final step in a process that went from discovery to development, with institutions having few means to commercially exploit discoveries²⁹.

This form of value creation requires an amendment to the status of civil servants. Researchers and faculty members are civil servants, and as such are subject to the general principles that determine their obligations as government employees, i.e. exclusivity and disinterestedness, according to the principles laid down by the French Council of State in 1926. Paragraph 1 of Article 25 of Act no. 83-634 of 13 July 1983 (known as the 'Le Pors' Act) lays down the principle of a ban on combining public employment with a private paid activity in order to preserve their independence.

However, many reforms in the late 1980s undermined these principles of disinterestedness and exclusivity. Over the course of evolving legislation and transformations, various situations involving multiple positions or activities have been authorised, whether related or unrelated to the researchers' remit, and including value creation activities, thus helping to reshape their overall remit.

- *Activities related to their remit* refer to tasks listed in the statutes, such as tuition, consultancy and expert appraisal³⁰. These activities may raise questions of independence (as in the case of expert appraisal), or of the duty of reserve (in the case of consultancy).

- *Value creation activities* raise questions of research marketability. They cover three situations:

- Articles L. 413-1 to L. 413-7 of the Research Code (Article 25-1 of the Act of 15 July 1982 as amended) allow public employees to participate in the creation of a company designed to enhance the value of the research they have completed while carrying out their remit.

- Articles L. 413-8 to L. 413-11 (Article 25-2 of the Act of 15 July 1982) allow public employees—who continue to carry out their functions in the public service as their main occupation—to provide scientific assistance to a private company exploiting the research they have carried out in the exercise of their public duties.

- Articles L.413-12 to L.413-14 (Article 25-3 of the Act of 15 July 1982) allow a public employee to be a member of a company's governing body, whether a member of the board of directors or of the supervisory board. In this case, the public employee cannot provide scientific support to the company.

²⁸ CNER, *L'évaluation de la recherche. Réflexions et pratiques du comité [Assessing research. Committee deliberations and practices]*, 1990-1993, Paris 1994, La Documentation Française, p.6

²⁹ Institutions could add value directly through either a subsidiary or participation in a Private Interest Group, or they could grant an operating licence to a private company (the most common solution).

³⁰ In some cases (such as copyright), their funding may raise intellectual property issues, which are governed by specific texts.

- Finally, since the Decree of 2 May 2007, amended by the Decree of 20 January 2011, activities that go beyond the scope of research are authorised, thus extending the possibility of conducting *activities related to a researcher's remit to include those that are not*. Article 1 of this amended decree authorises civil servants to engage in an activity that is secondary to their main activity, *provided that this activity does not interfere with the normal functioning, independence or neutrality of the public service. This secondary activity may be for a public or private entity, and the same public employee may be allowed to engage in more than one secondary activity.*³¹

The purpose of this extension is purely financial. It authorises, if not encourages, civil servants to look for new sources of income outside their profession.

2. Insufficient ethical consideration of the conditions for value creation in professions

All these activities raise ethical issues that are handled either by the administrations concerned or by the French Civil Service Ethics Commission, without being resolved satisfactorily.

- *Ethics in the eyes of the administration*

The administration is at the forefront for overseeing activities related to a researcher's remit. *Tuition* is the most common secondary activity. All paid activities are subject to authorisation by the administration, and in the case of the CNRS, by the Regional Delegates. At the CNRS, both *consultancy*, provided for by the Decree-Law of 29 October 1936, and *expert appraisal*, added in 2004, have been subject to fairly strict rules of procedure³²: In granting such an authorisation, where applicable, the administration must ensure both compliance with the normal functioning of the public service (Article 1 of the Decree of 2 May 2007), as well as with the provisions of Article 432-12 of the Criminal Code relating to the illegal taking of interests in the exercise of one's functions (Article 9 of the Decree of 2 May 2007) and protection of its intellectual property rights (for example, by concluding a cooperation contract with the company(ies) or body(ies) that the staff member is being consulted by).

The Decrees of 2 May 2007 and 20 January 2011 authorise certain secondary activities unrelated to the researcher's statutory remit—activities previously covered by the rules on holding more than one position and/or conducting several activities concomitantly—to be carried out without any time limit. In this case, the activity is carried out with the authorisation of the administration to which the employee belongs, which then verifies compliance with the profession's ethical standards. Within the CNRS, researchers request an authorisation for secondary activities from the Regional Delegate. For academics, the HR Department examines the application and the President of the university decides on the answer. However, both CNRS delegations and university departments appear ill-equipped to assess the compatibility of these new activities with a career in research. In particular, they have difficulty determining *whether this activity could undermine the normal functioning, independence or neutrality of the public service*.

- *Ethics under the watchful eye of the French Civil Service Ethics Commission*

Since 1995, the Ethics Commission has been carrying out several supervisory tasks:

³¹ Decree no. 2011-82 of 20 January 2011 amending Decree no. 2007-658 of 2 May 2007 on the possibility for civil servants, non-tenured employees under public law and workers in State-owned industrial facilities to hold more than one position. Article 2 of this decree specifies these activities in two disparate lists. The first covers various activities ranging from expert appraisal and consultation, teaching and training, to activities as a collaborating spouse in a craft, commercial or liberal enterprise, to home help for an ascendant, descendant, spouse, partner in a civil solidarity pact or cohabitant, to minor work carried out in private homes. The second includes personal services, and the sale of goods made by the employee him or herself.

³² Practice direction no. INS030001BPC of 31 July 2003.

- Monitoring the departure of public employees, and some employees with private law contracts, who plan to work in the private sector and in the competitive public sector. The Commission examines whether or not the private activities they intend to pursue are incompatible with their previous duties.
- Examination of the compatibility of a civil servant's project to found or take over a company on the basis of 1° of II of Article 25 of Act no. 83-634 of 13 July 1983.
- Examination of the compatibility between the pursuit of a private activity by the director of a company or association on the basis of 2° of II of the same Article 25 and the public duties fulfilled.
- Finally, pursuant to Articles L. 413-3, L. 413-8 and L. 413-14 of the French Research Code, the Commission gives its opinion on authorisations requested by research staff with a view to participating in the founding of companies and in the activities of existing companies³³. A specialised HR training course has been set up for cases concerning researchers.

In its report for 2010, the Commission notes that the number of referrals to the Commission for an opinion on a request for a secondary position or activity has continued to increase and now significantly outweighs the number of requests for an opinion on ceasing an activity. The first case now represents over 70% of the Commission's workload. It specifies that all applications for secondary activities are required to be referred to the Commission, whereas cessation of activity is not. Furthermore, the success of the "auto-entrepreneur" self-employed freelancer status in France has greatly contributed to the increase in requests³⁴.

In other words, while the pursuit of commercial activities can now be considered to be well regulated by the Commission, secondary activities remain for the most part outside its control, which raises ethical issues about the conditions under which employing organisations grant their authorisations.

³³ This presentation is taken from the 2010 Report of the French Civil Service Ethics Commission, p.55-59.

³⁴ *Ibid*, p. 49.



VI. ANNEX 2

Some proposals on holding more than one position and/or conducting several activities concomitantly (points 7 to 9, page 16) transmitted to COMETS on 16/03/2014 by the CNRS human resources department

7) Staff members must be informed of and comply with the rules on the plurality of activities and/or positions, which were the subject of a circular from the HR Department dated 16 July 2013 (participation in multiple activities and in the share capital of companies). They are invited to indicate in their title and work records (and in the annual CRAC reports in the case of researchers) their various secondary activities, whether or not they are related to the subject of their research.

8) Unit directors are asked to be attentive to the secondary activities of researchers in their laboratory, particularly when they involve consultancy and expert appraisal. It is recalled that requests for authorisation to participate in secondary activities are subject to the discretion of the CNRS Regional Delegates.

