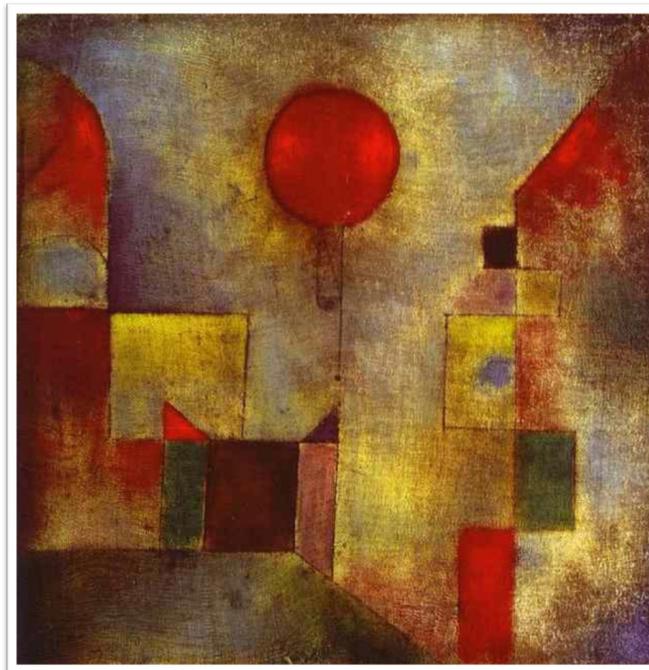


Premier dossier :
La construction du monde social



Paul Klee, Roter Ballon , 1922

Introduction : la construction du monde social

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La construction du social est spontanément associée au constructivisme et à son épistémologie particulière.

Les deux approches proposées dans les pages qui vont suivre étudient la manière dont le monde social est construit en se démarquant de cette épistémologie.

John R. Searle est un réaliste. Pour lui, la distinction fondamentale se situe entre les faits bruts (*brute facts*) et les faits sociaux. Pour exister, une montagne n'a pas besoin de notre croyance collective en son existence. Pour qu'un morceau de papier ou une ligne électronique ait le pouvoir de se transformer en autre chose, des fleurs par exemple, à l'être aimé offertes, il faut qu'une construction d'un type particulier ait lieu, liée à une croyance collective. Ce type de construction s'étudie selon Searle de manière parfaitement réaliste.

Michel Callon, et tout un groupe de chercheurs autour de lui, s'intéressent à un autre type de construction, la manière dont les théories, notamment économiques, via les dispositifs, performant la réalité. Michel Callon (2006 ; 2009) a plusieurs fois traité de ce phénomène dans le *Libellio* mais ses idées sont ici reprises et discutées sur un cas.



Emil Nolde, Dahlias.

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Comment le monde social est-il construit ?

Le point de vue de John R. Searle

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Le livre de John Searle (2010) s'attache à explorer l'ontologie (le mode d'existence) de la réalité humaine sociale institutionnelle (« *human social institutional reality* »). Il le fait en réaliste, non en constructiviste, et ce problème ontologique tient dans un paradoxe qui exprime cette position :

How is it possible that we can have factual objective knowledge of a reality that is created by subjective opinions? (p. ix)

Précisons. Il y a deux types de faits : les faits basiques ou bruts, qui existent sans besoin d'institutions, et les faits institutionnels.

Some facts exist independently of any human institution. I call these brute facts. But some facts require human institutions in order to exist at all. An example of a brute fact is that the earth is 93 million miles from the sun, and an example of an institutional fact is that Barak Obama is president of the United States. Institutional facts are typically objective facts, but oddly enough, they are only facts by human agreement or acceptance. Such facts require institutions for their existence. Typically, institutional facts are facts that exist only within human institutions. (p. 10)

La question est donc : qu'est-ce qu'une institution ? On se situe là dans un domaine qui est en deçà (ou au-delà...) des sciences sociales, celui de la philosophie de la société. Les sciences sociales peuvent fonctionner et obtenir des résultats sans se poser cette question ontologique. En même temps, des éclairages sur cette question peuvent les aider.

[...] I think it is sometimes possible to do good research without worrying about the ontological issues, but the whole investigation gets a greater depth if one is acutely conscious of the ontology of the phenomena being investigated. (p. 201)

Le livre est complexe, parfois laborieux dans le style de la philosophie anglo-saxonne, difficile à présenter et résumer. Il retrouve quelquefois des banalités après des raisonnements abstrus. Son principal intérêt réside en deux points :

- il cherche un mécanisme unique de la constitution (et de la compréhension) de la réalité sociale considérée comme un domaine ontologique particulier ;
- il donne des éclairages intéressants sur la notion d'institution.

La thèse fondamentale du livre est énoncée ainsi :

[...] institutional facts = status functions → deontic powers → desire-independent reasons for actions. In plain English, all and only institutional

facts are status functions; status functions imply deontic powers, and deontic powers always provide desire-independent reasons for action. (p. 23)

Nous allons ici suivre (en partie seulement) le fil du raisonnement de Searle et expliquer ce qu'il entend par « *status functions* », « *deontic powers* », « *desire-independent reasons* ». Première remarque : les faits institutionnels sont liés au langage, d'où la difficulté à les comprendre :

We live in a sea of institutional facts. Much of this is invisible to us. Just as it is hard for the fish to see the water in which they swim, so it is hard for us to see the institutionality in which we swim. Institutional facts are without exception constituted by language, but the functioning of language is especially hard to see. This might seem an odd thing to say because we are often conscious of language when we engage in a conversation, receive a telephone call, pay our bills, answer our e-mail, and so on. What I mean is that we are not conscious of the role of language in constituting social reality. We are aware of such things as the actual speech acts we perform, and we are often aware of such unimportant things as the accents with which other people speak, but the constitutive role of language in the power relations in which we are immersed is, for the most part, invisible to us. (p. 90)

La remarque s'appuie évidemment sur le champ ouvert par Austin : le langage ne fait pas que décrire le monde, avec la possibilité du vrai et du faux (« le chat est couché sur le paillason »), il change les états du monde (« je promets de venir te voir »)¹. Les faits institutionnels sont tous créés par un type particulier de langage que Searle appelle déclaration.

[Declarations] change the world by declaring that a state of affairs exists and thus bringing that state of affairs into existence. (p. 13)

Ce sont donc les déclarations qui créent les faits institutionnels :

[...] all institutional facts are created by the same logical operation: the creation of a reality by representing it as existing. The general form for the creation of status functions is this :

We (or I) make it the case by Declaration that the Y status function exists. (p. 93)

Qu'est-ce que cette « *status function* » ? Searle part d'un exemple. Une tribu construit un mur infranchissable. Au fil du temps, le mur s'écroule et il ne reste plus qu'une ligne de pierres facilement franchissable. Mais cette ligne demeure en tant que fonction. Elle ne l'est plus en tant qu'objet physique, elle l'est en tant qu'elle est reconnue collectivement comme ayant la fonction de frontière. D'où :

I will define a status function as a function that is performed by an object(s), person(s), or other sort of entity(ies) and which can only be performed in virtue of the fact that the community in which the function is performed assigns a certain status to the object, person, or entity in question, and the function is performed in virtue of the collective acceptance or recognition of the object, person, or entity as having that status. (p. 94)

Ici deux remarques. Pourquoi objet, personne et *entité* ? Entité, dit explicitement Searle, parce qu'une entité abstraite peut se voir attribuer un statut reconnu, c'est le cas dit-il des sociétés à responsabilité limitée (« *limited liability corporation* » – p. 95). Seconde remarque, Searle parlait dans le passé d'« *acceptance* » (Searle, 1995), il préfère maintenant parler de « *recognition* ». En effet, des critiques lui ont fait remarquer qu'« *acceptance* » suggérait une acceptation active, une sorte d'adhésion positive. Non, le statut peut être controversé, mais il reste reconnu. L'exemple employé par Searle est l'élection de George Bush. On ne sait pas si c'est Bush ou Gore

1. se souvenir que Searle a écrit un livre sur les « *speech acts* », les actes de langage ou actes par le langage (Searle, 1969).

qui a emporté l'élection. La décision ultime de la Cour Suprême est controversée. Des étudiants de Berkeley se promènent avec des T-shirts « *Bush is not my president* ». Néanmoins, on peut le déplorer mais c'est aussi la force du fait institutionnel, Bush est collectivement reconnu après la décision de la Cour Suprême comme le président des États-Unis. Pour Searle, un fait institutionnel est nécessairement un fait sujet à reconnaissance collective. Par exemple, une récession, alors que peu de gens ont conscience que l'économie vient d'y entrer, n'est pas un fait institutionnel. C'est un « *fallout* » (une retombée, un effet collatéral) de faits institutionnels, mais pas un fait institutionnel comme la monnaie l'est (pour que la monnaie existe, il faut que tout le monde la reconnaisse en tant que monnaie).



On voit l'effet de la fonction dans « *status function* ». De quelle nature est le statut attribué par la fonction ? C'est ici que Searle parle de « *deontic powers* ». Ce sont des droits et des obligations :

Typical names of deontic powers are « rights », « duties », « authorizations », « requirements », « permissions », and « certifications ». These nouns connect with important verbs, especially the modal auxiliary verbs « ought », « should », « can », and « must ». (p. 123)

Les pouvoirs déontiques sont donc constitués de droits et devoirs, pour faire simple. Ils sont des pouvoirs, c'est-à-dire qu'ils existent même s'ils ne sont pas exercés :

The notion of power is the notion of a capacity, and for that reason, a power may exist without ever being used or exercised. (p. 145)

Searle fait remarquer que la chose peut paraître mystérieuse, mais qu'elle est assez triviale en réalité, en prenant l'exemple suivant. Dans un *pub* (on sait que dans ce type d'établissement, il n'y a pas de service en salle), je vais au bar et prends trois bières. Revenant à la table, je pose une des bières devant Marianne et l'autre devant Sally, la troisième à ma place. Je peux prononcer ou pas la phrase « celle-ci est pour Sally et celle-là pour Marianne ». Cette phrase crée des pouvoirs déontiques. Si Sally trouve que le verre posé devant Marianne est plus plein que le sien et qu'elle décide de s'en emparer, Marianne protestera : en prononçant la phrase (ou simplement en posant les verres devant chacun), j'ai créé des devoirs et donné des droits aux uns et aux autres – Marianne a le droit de considérer le verre posé devant elle comme « son » verre, et Sally a le devoir de ne pas le considérer comme sien. L'attribution de pouvoirs déontiques par une déclaration est une réalité courante. La création de faits institutionnels plus élaborés est évidemment plus complexe, mais elle n'est pas d'une nature fondamentalement différente. Elle repose plus directement sur du langage écrit, qui rend possible notamment le maintien dans le temps des faits institutionnels :

Once a tribe gets written language, all sorts of other developments become possible. This stability of written language enables the creation and continued existence of status functions that do not require any physical existence beyond the linguistic representations themselves. (p. 115)

Maintenant, souvenons-nous que Searle a posé trois éléments : la fonction d'attribution de statut, les pouvoirs déontiques, et les raisons d'agir indépendantes du désir. Il y a en effet un lien essentiel entre les deux derniers :

To recognize the deontology is to recognize desire-independent or inclination-independent reasons for acting. And the institutions in question – statement making, property, and so on – cannot survive and function in a society of free agents unless they can provide such reasons. (p. 139)

Dans la mesure où nous sommes dotés d'une volonté libre (« *free will* »), nous pouvons nous écarter de nos simples désirs ou inclinations, et choisir d'autres raisons d'agir, indépendantes de ces désirs et inclinations. Les institutions nous fournissent ces raisons d'agir d'un type très particulier.

The institution as such does not force the behavior. It simply creates possibilities, but the possibilities are constrained by the way the system of constitutive rules enables the agent to create reasons for action that are independent of the inclinations that the agent may otherwise have. This is true in general of institutions. When I recognize something as your property, when I recognize something as my government, when I recognize something as a promise made by me, when I recognize something as my statement, I am in each case recognizing not just the possibilities of behavior that could not exist without these institutions, but I also recognize restrictions on my behavior as an agent operating within these institutions. It is this combination that is special to our form of institutional reality. (pp. 140-141)

En nous fournissant ce type de raisons d'agir, elles entrent en phase avec le fonctionnement de notre rationalité. Ce sont ces raisons d'agir qui expriment la notion de « pouvoir » dans l'expression « pouvoirs déontiques ». On est au-delà de la force brute ou de la menace, et dans une forme de pouvoir particulière :

[...] if I make a promise to you, then you do indeed have a deontic power over me, because I have created a binding reason on myself for doing what I promised to do. I think this is a case of a power relation, but deontic powers are typically cases in which the power consists of *reasons for action*. (p. 148)

Les formes de ce pouvoir peuvent être diverses : elles peuvent être simplement « *the power to set the agenda of human action in certain ways* » (p. 149 – référence à Lukes (2005) ou la manipulation qui consiste à réduire les options possibles pour l'action (éventuellement à une seule, comme lorsque Bush a essayé d'expliquer qu'il n'y avait que la guerre comme option pour faire face à la menace irakienne). Mais pour Searle, le pouvoir est toujours le pouvoir de quelqu'un d'identifié sur quelqu'un d'identifié en rapport à une action identifiée. Il discute alors l'idée de bio-pouvoir de Foucault qui est un pouvoir exercé par personne sur tout le monde. Pour Searle, ce n'est pas un pouvoir au sens où il l'entend, c'est un réseau normatif imposant des dispositions à agir, des « *background capacities* » (p. 160). Les pouvoirs déontiques sont d'un autre ordre puisque, comme on l'a vu, ils sont créés par une déclaration.

Such powers have a special ontology. (pp. 169-170)

Bien évidemment, ces pouvoirs ne contraignent pas notre volonté, ils donnent juste des raisons d'agir. Donc, l'infraction est toujours possible :

What is special about our institutional structures is that participation in them gives the rational agent a reason for not cheating and for not doing something he wants to do, as well for doing something even when he does not feel like doing it then and there. People have strong motivations to break the rules, and the rules are not self-enforcing. Sometimes you have to call the police or use other coercive measures. (p. 141)

L'infraction n'infirme pas le rôle et le fonctionnement des institutions, étant en phase avec la libre volonté. Elle la conforte d'ailleurs plutôt puisque l'organisation de la coercition est elle-même un fait institutionnel :

The police powers presuppose the deontology rather than being inconsistent with it, because the content of the police powers must be mirrored in the deontology. (p. 142)

Deux points sont juste mentionnés comme en passant par Searle et sont pourtant fondamentaux. Le premier touche à la question : pourquoi des institutions ? La réponse est : les institutions élargissent de manière incroyable nos possibilités d'agir :

The main point of institutions is that they create enormous possibilities. So, for example, you cannot desire to make a lot of money, get married, or become president of the United States unless there are the institutions of money, marriage, and the United States presidency. And this goes also for informal uncodified institutions; you cannot want to have a great love affair or give a great dinner party without the corresponding status functions. The existence of institutions, as I have emphasized over and over, is enormously enabling in human life, and gives us all kinds of possibilities that we could not otherwise conceive of. (pp. 123-124)

Par ailleurs, second point, les institutions se renforcent au gré de leur utilisation :

[...] participation in human institutions reinforces the deontology. Cars and shirts wear out after much usage. Universities, ski teams, and governments do not wear out. The more they are used, the stronger they get. (p. 141)

Searle conclut son livre par un chapitre intéressant sur un problème délicat pour sa construction. Sa vision des faits institutionnels est celle d'une déclaration attribuant des pouvoirs déontiques. En quoi alors, peut-on parler de droits de l'homme ? Ceux-ci en effet seraient antérieurs à toute institution, indépendants de toute création par voie déclarative attribuant des pouvoirs déontiques. Doit-on, comme Bentham, penser que le concept de « droits de l'homme » est une absurdité ? Ou, justement, la déclaration universelle des droits de l'homme est-elle une tentative pour créer un fait institutionnel ?

Mise en perspective

En un sens, comme la lecture de cette présentation l'aura peut-être suggéré, ce petit livre est assez trivial. Il ne semble pas avancer de points nouveaux sur des sujets difficiles (par exemple, par rapport à ce que Weber dit de l'autorité ou de la légitimité). Mais sur des sujets aussi « évidents » dans nos vies que les institutions, est-il possible de dire des choses vraiment nouvelles ? Wittgenstein disait qu'il fallait prendre des détours compliqués et rigoureux pour finalement aboutir à un « synopsis de trivialités » : cela correspond assez bien à la structure de l'ouvrage – des développements compliqués parfois, comme sur le langage, pour arriver à des choses finalement assez banales.

Il y a pourtant autre chose.

D'abord, la démarche permet de remettre à sa place la question du constructivisme. Tout n'est évidemment pas construit, et en tout cas pas construit de la même manière. À voir du construit partout, on ne voit plus rien d'intéressant. Searle cherche au contraire, en réaliste (Searle, 1995), à circonscrire de manière rigoureuse le domaine du construit – les faits institutionnels – et à comprendre comment ce construit l'est, son processus de construction. Plus profondément, il montre le rôle du langage, et exactement dans la même veine : il ne s'agit pas de dire que puisque tout est langage, tout est construit, mais de montrer qu'un type de langage particulier – ce qu'il appelle « déclaration » – est à la base de ce qui est réellement construit dans le monde – les faits institutionnels. *Tout* n'est donc pas construit par le langage, les faits institutionnels sont construits par un type de langage particulier (Wittgenstein parlerait peut-être d'un jeu de langage particulier). Par ailleurs, Searle a raison de dire que le travail des sciences sociales peut s'effectuer sans réflexion approfondie sur l'ontologie du social, mais qu'une réflexion sur cette ontologie rend leur démarche

sans doute plus assurée et plus réflexive (ne serait-ce que par rapport justement à certaines thèses constructivistes qui obscurcissent grandement le débat).

Si l'ouvrage comporte une faiblesse, elle est habituelle : il s'agit d'un manque de réflexion sur les cas de « ratés ». La construction des faits institutionnels telle qu'elle est analysée par Searle apparaît relativement convaincante (du fait d'ailleurs de sa « trivialité » qui n'a pas ici de dimension péjorative) et elle fonctionne bien dans le monde dans lequel nous vivons. Mais elle serait mieux éclairée si une étude plus systématique était menée des cas où cette construction « rate », n'aboutit pas et si les raisons de ces ratés étaient mises en évidence.

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Michel Callon, Michel Foucault and the « *dispositif* »

When economics fails to be performative: A case study

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In recent years, many important studies have focused on performativity or performance of economics (among others, see Callon, Milo & Muniesa, 2007; MacKenzie, Muniesa & Siu, 2007). Together with authors such as Yuval Millo, Fabian Muniesa, Donald MacKenzie, or Lucia Siu, Michel Callon has played an important role in this field. Most of these scholars have highlighted the way in which economics performs real world. We will, in contrast, focus on the opposite. Drawing on the case of air traffic management (ATM) in Europe, a case we have been working on for about ten years, we will attempt to show how economics failed to perform this industry. Our purpose is not to offer a kind of refutation or falsification of the performativity theory from a Popperian stance. Obviously, this theory acknowledges the fact that economics does not always perform the economy. Rather our aim is to refine the theory, to pinpoint some paradoxes related to performativity or performance, and to bring forward thinkable promising research perspectives.

We shall begin by examining what, in Michel Callon's perspective, constitutes and does not constitute the performativity of economics. Then, we will have a look at Michel Foucault's notion of « *dispositif* » (apparatus or device), to explore how Callon relies on Foucault, but also how Foucault can still be useful when approaching the notion of device. After that, we will present the selected case, air traffic management (ATM) in Europe. Finally, we will discuss this case in connection with the theoretical framework.

Michel Callon on performativity (or performance)

To understand what Michel Callon has in mind when using the notion of performativity or performance, it is useful first to understand what it is not or what it is opposed to.

First, performativity is opposed to embeddedness, to the idea that economy is embedded in a social world that determines it. What seems interesting to Michel Callon is not how the economy is embedded, but how it succeeds in gaining autonomy from the social world. Michel Callon, here, is quite in line with Fernand Braudel (1979/1992) when he showed how the economy tried to free itself, in a difficult and slow process, from the social world, especially religion. Emphasis is therefore placed on the mechanisms that allow the economy to become separate from the social environment and, reciprocally, on how the social can thereafter be economized: « *the question is not: what do we call economic behavior, or what is the*

economy, but how are behaviors, institutions, agencements, and rules of the game economized?» (Callon, 2008, p. 22).

Principally since Walras (Dumez, 1985), distinctions are made between pure and applied, and positive and normative economics. On the one hand, there would be the abstract world of models, explicitly or implicitly normative, and on the other hand, there would be the real world to which these models would be or should be applied. The notion of performativity questions these distinctions.

Something similar can be said in connection with the concept of convention, or the idea that agents must agree on rules and norms before acting, and in order to interact. These rules, explicit or tacit, would be the necessary condition of coordinated economic behaviors. According to Michel Callon, however, conventions could be and must be forgotten. Performativity is something very different from agreed upon rules.

Performativity can also be contrasted to self-fulfilling prophecies. If all agents believe something will happen and act accordingly, it turns out the thing happens. Michel Callon considers this mechanism to be simplistic, and not to correspond to the way economics performs reality.

Finally, performativity must be distinguished from (neo) institutionalism. In order to function, the economy is said to need institutions. Michel Callon thinks the notion of institution is too static: it can explain how an economic state can reproduce itself, but not how it can evolve. And institutions are stuck: they do not explain how they can evolve themselves. They are a framework and, as such, seem unable to change and let change happen. In Michel Callon's view, old as new institutionalisms lack explanatory power.

Thus, to understand what Michel Callon means by performativity or performance, we must first examine the large and impressive set of ideas from which this notion is intended to break. These ideas include all the well-known theories regarding the economic world, orthodox as much as heterodox, Nobel-prize winning or otherwise. The second step consists of focusing on what Michel Callon concentrates when speaking of performativity, namely the economic discourse and devices.

Regarding economic discourse, Michel Callon thinks it is important to go beyond the distinction between the disciplinary, scientific, academic economic theory, and the spontaneous economic theory by practitioners. To capture that, we introduced, when analyzing price control practice in France between 1936 and 1986, the expression « spontaneous (economic) theory » (Dumez & Jeunemaître, 1989). The academic official theory condemns price control as an infringement of the free market mechanism. The price controllers, some pure practitioners, other (like Taussig or J. K. Galbraith) trained in academic economics, invented a sort of spontaneous theory of the practice (« spontaneous philosophy » is an expression by Gramsci, taken over by Althusser, 1967). When dealing with the performativity of economics, Michel Callon (2006) speaks of « economics at large », which means academic economic theory as economic “theory” made by practitioners, or spontaneous economic theory. « Economics at large » is a domain that avoids the traditional distinctions between pure and applied, positive and normative economics, and subsumes the various types of economic discourse.

What Michel Callon has in mind when forging such a large and undetermined domain, is to show that performativity relies on the creativity (models, algorithms, spontaneous economic reasoning) of the agents – of all types of agents, practitioners as well as academics. In that perspective, experimental economics appears as one of

the most important development of recent years. During the initial period, experimental economics was not very creative: the aim was to « test » models, to see whether or not they matched agents' real behaviors. As economists are poor Popperians, and behave themselves rather as scientists in Thomas Kuhn's description, *i.e.* they are not very interested in falsifying their theories, experimental economics was for them mostly a matter of indifference. Things changed when experimental economics no longer limited itself to testing models, but sought to invent new forms of markets. Michel Callon believes that, through the experimental approach, economics is enlarging the gap between itself and other social sciences: « *L'expérimentation à la fois comme creuset où s'élabore la théorie et comme cadre qui permet à cette théorie d'avoir des effets, est devenue selon moi un enjeu majeur* » [« experimentation is at the same time the crucible in which theory is elaborated, and the framework allowing this theory to have effects; today, experimentation has become a major challenge »] (Callon, 2006, pp. 26-27). Fabian Muniesa and Michel Callon speak of « experimental performance ».

Performativity can be thus rooted in theory or practice. In this process, argues Michel Callon, devices are essential. In an interview, Michel Callon (2008) explains that, since *The laws of the markets* (1998), he may have changed his mind on performativity, which became performance or copformance, but not regarding devices. These are the central, invariant, elements of the approach (Callon, Milo & Muniesa, 2007; MacKenzie, Muniesa & Siu, 2007). There is a paradox here. Strictly speaking, performativity designates a discourse that is at the same time an act that changes the world. The change in the world coincides with the uttering. The first historical statement of performativity, the one by Varro in his *De lingua latina*, is clear-cut: « *Spondere est dicere spondeo* » (« To promise is to say: I promise »). In Michel Callon's perspective, the performativity or performance of economics definitely does not work in that way. Economics performs the real world if and only if socio-technical devices exist that make the performance possible. If devices are few and limited, the performance of economics is rare and limited (Callon, 2006, p. 26). Theory becomes true if devices let it become true. In the perspective of the Actor Network Theory (ANT), devices as non-human actors act, and in a sense even act more truly, than human actors. Michel Callon underlines two additional points. Upstream, devices are rooted in algorithms. These algorithms may be anchored in academic theory, and be presented and discussed in economic journals, or in practice and spontaneous theory. Upstream again, in order for economic devices to work, goods must have been created as abstract or concrete objects that are both valuable and exchangeable. Downstream, Michel Callon insists on the calculative skills with which the agents must be equipped. But the analytical core of the approach is the device itself. A simple algorithm, the creation of valuable goods, the agents' calculative equipment not by themselves sufficient to make economics performative. For instance, the agents' calculative equipment is created by the devices, and not the other way around, even if there is always at the same time framing and overflowing (which makes the difference with institutionalism). Since Michel Callon refers to Michel Foucault when speaking of devices and performativity, it might be useful to turn to the latter to understand what devices are in the former's perspective.

Michel Foucault and the « dispositif » (device, or apparatus)

Michel Foucault uses the French word « dispositif », which is translated as « apparatus » (Agamben) or device (Callon), and sometimes let in French as English translations are not completely satisfying. Actually, the word « dispositif » comes

from very far away in the past. Agamben (2009) has tried to draw its genealogical tree. In French, « *dispositif* » originally means the final part of a sentence, where reasons of the decision reached by the judge are explained in an ordered way. Then it means the way a general intentionally disposes his forces to get the maximum defensive or offensive impact. But Foucault takes the word from his master in philosophy, Jean Hyppolite. Hyppolite wrote on the young Hegel's *Die Positivität der Christlichen Religion*, where Hegel drew a distinction between natural religion, a direct contact with divinity, and the positive religions made of prescriptions, discourses and rituals that constrain religious behaviors. In this context, « *dispositif* » comes from the Latin *dispositio*, which translates the Greek *oekonomia* in a religious sense. The word has been used, especially by Ireneas of Lyon, to mean the way God intentionally organizes the salvation of humanity – what is called the economy of salvation (Fantino, 1994).

As for Foucault, the crucial reference in this connection is an interview he gave to the psychoanalytic French journal *Ornicar* in 1977:

[By « *dispositif* », I mean:] firstly, a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical and moral propositions – in short, the said as much as the unsaid. Such are the elements of that apparatus. The apparatus itself is the system of relations that can be established between these elements. Secondly, what I am trying to identify in this apparatus is precisely the nature of the connection that can exist between these heterogeneous elements. Thus, a particular discourse can figure at one time as the program of an institution, and at another it can function as a means of justifying or masking a practice which itself remains silent, or as a secondary re-interpretation of this practice, opening out for it a new field of rationality. In short, between these elements, discursive or non-discursive, there is a sort of interplay of shifts of position and modifications of function, which can also vary very widely. Thirdly, I understand by the term 'apparatus' a sort of – shall we say – formation which has as its major function at a given historical moment that of responding to an urgent need. The apparatus thus has a dominant strategic function [...] there is a first moment, which is the prevalent influence of a strategic objective. Next, the apparatus as such is constructed and enabled to continue in existence insofar as it is the site of a double process. On the one hand, there is a process of functional over-determination [...] on the other hand, there is a perpetual process of strategic elaboration. (Foucault, 1980, pp. 194-195)

Why is this text interesting in our perspective? First, because it shows the direct connection between Michel Callon's and Michel Foucault's analysis of devices. A device (or apparatus, i.e. a « *dispositif* ») has a hybrid nature. It is made of discourses and non-discourses (« *du dit et du non dit* »). It is the relationships between these heterogeneous elements that really count, and they can be complex. A discourse can be the programme of an institution, or, on the contrary, be disconnected from practices and conceal them (the practices being themselves silent, « *muettes* »). But it can also be an *a posteriori* interpretation of practices that developed ahead of it. One can see in Michel Callon's work the same complex relationships affecting discourses and non-discourses, the idea that devices structure behaviors and therefore act, the notion that devices are made of knowledge and, at the same time, produce knowledge.

The second reason for paying attention to Michel Foucault here is that one element present in his text seems to have (at least partially) disappeared in Michel Callon's

work, *i.e.* the particular dynamics of devices as structured in two phases. The creation of devices is marked by an « urgent need » (as Michel Foucault puts it). Then, during the second phase, new, unanticipated functions, strategies, and processes emerge and contribute to stabilize and entrench the device (if it does not rapidly disappear). So Michel Foucault's vision is an invitation to focus on two distinct moments: the appearance of the device, and its stabilization, a strategy that uncovers continuities and discontinuities.

Let us now analyze a case study to discuss Michel Foucault's and Michel Callon's ideas on performance and devices.

The case of the European Air Traffic Management

The selected case is an industry that, at its very beginning, was not conceived as a market and was kept off from the usual economic models and tools (profit, competition), and is now exposed in Europe to performance or performativity of economics: the Air Traffic Management (ATM), which consists mainly in Air Traffic Control, but also in flow management¹.

The control of the movements in the sky goes back to the Franco-Prussian war of 1870-1871, when balloons were used by both armies: Did states have the right to control the sky above their territory? The question became more topical at the time of the first airplane race in 1909. Blériot, the winner, flew across the English Channel, taking off

in France to land in the United Kingdom. An international conference was set up in Paris the following year, but no agreement was reached. Two principles of law oppose each other in this context. The first one is the sovereignty of nation states. Could a foreign plane be allowed to fly over Paris and land somewhere in France without the French State having been informed and having authorized it? The second one was formulated by Grotius in 1609 in his *Mare liberum*, and establishes that the seas – here, the skies – cannot be the property of a state and must remain free of access. The debate raged for thirty years until 1944, when the Chicago Convention was signed by more than fifty states. The Convention stipulates that a plane can freely fly over a country, provided it does not land, or lands to refuel without embarking or disembarking any passenger or good. But each country is entitled to define routes and to control the planes flying over its territory. Countries, however, are not allowed to set up a toll. With the development of jets, security became a major problem.

A propeller generally has enough time left to avoid collision with another propeller when both can see each other. But when a jet notices another jet, it is usually too late, and the collision is inevitable. It therefore becomes necessary to define routes and corridors, to create radar coverage in order to determine where each aircraft is located, to organize phone calls so that controllers can give instructions to the pilots. This costs a lot. At the beginning of the 1970s, it was admitted that the aircraft crossing the sky of a country must pay for the development of these technically sophisticated and heavy systems. It remained clear that this involved only cost recovery, and not a toll to give access to the sky, which remained free for all. In the which US, the air traffic management was provided by a public administration (the Federal Aviation Authority), and a tax collected on each ticket (and indicated as



*le Blériot XI
qui a traversé la Manche
le 25 juillet 1909*

1. For a more detailed presentation, see Beyer, 2008; Brooker, 2003; Button & McDougall, 2006; Dumez & Jeunemaître, 2001; 2010.

such on the ticket itself). In Europe, each aircraft pays route charges to every country it has crossed the sky. In the 1970s, the air carrier market was regulated, competition was limited, and profits were substantial. To pass the cost of air traffic management on to the passengers was not a big issue.

We have presented (very briefly) the case. It is striking that the ATM industry was maintained off the usual economic rules of competition and profit. Two questions then arise: can the ATM be analyzed as a device, and, if yes, in what sense? If it can be analyzed as a device, what is its performance of?

ATM both presents a unity and is heterogeneous. The unity comes from an intention or intentionality: making flight as free and secure as possible. The heterogeneity comes from an intertwining of rules (both legal and technical) and technical systems (radars, telecoms, screens of control, huge software that compute flight plans data and helps controllers in their task), *i.e.* from an intertwining of discourses and non-discourses. This complex heterogeneous system governs the behavior of pilots, air carriers, controllers, and states. It relies on legal and technical knowledge and know-how, and it produces knowledge, as any control system does. Insofar as it encompasses algorithms, there are good reasons for considering it as a device in Foucault's and Callon's sense. This applies, for instance, to the determination of the en-route charges aimed at recovering costs. The algorithm takes into account the distance flown in the sky of the country crossed over, the square root of take-off weight of the aircraft, and a service unit defined by each country on the basis of the costs of the national ATM system and of the number of controlled flights per year. Another algorithm manages the disequilibria between the flight plans asked for by the air carriers and the capacity of control in real time.

If the answer to the first question is that there are indeed good reasons to see the ATM as a device in Foucault's and Callon's sense, then we can turn to the second one: what is this device the performance of? Analysis tends to indicate it is the performance of law with the help of engineering. Law, a subtle and complex combination aimed at managing liberty of flight and national sovereignty simultaneously, thus relied on engineering to establish the device.

Now comes a third question: what place was given to economics in that device? Economics was intentionally contained and its place reduced to a minimum. Profit was eliminated; the only implemented economic principle was that the en-route charges must be cost-related. But the cost-relation is weak: each country announces its costs and recovers them. There is no in-depth control of these costs. However, an attentive look demonstrates that economics is not completely absent. To a controller, any aircraft, whatever its type, is a point on a screen and must be handled so as to avoid potential collisions. The aircraft is controlled as long as it stays within a country's sky. Costs are related to control duration, and, as an approximation that is easier to calculate, to the distance flown in the national sky. In Europe, however, another factor is taken into account: the takeoff weight of the aircraft. While the task of control is exactly the same for both large and small airplanes, the former pay more, though only in relation to the square root of their weight. Big machines thus cross-subsidize small ones, but not too much. The algorithm organizes cross-subsidization. More generally, the device as a whole, supposed to perform law and engineering but not economics, entails nonetheless cross-subsidization. We will return to that crucial point. The answer to the third question is mixed. Economics was not present in the device when it was created, and then it penetrated it in a very limited way.

Things changed in the 1980s when air transportation was deregulated. Competition became fierce with the apparition of low cost companies. This had two main consequences: operational margins, which were comfortable until then, decreased dramatically and traffic exploded. As regards ATM, it appeared at the same time very costly (eroding the operational margins of the air carriers) and inefficient (delays grew, peaking in 1988-89). This raised the issue of performance. Economics was called for at two different levels: the transformation of the whole industry into a market, and the introduction of limited economic mechanisms. In the 1990s it was discussed to merge all the different national upper airspaces into one European unified upper airspace, and to organize auction procedures for the entire block or a few great partial blocks. This assumed that part of the airspace was transformed from an object of national sovereignty into a valuable, exchangeable, good. Competition was set up – not *in* the market, but *for* the market – through an auction mechanism between the different national service providers, individually or allied. Technically, specialists agreed that it would be possible to control the entire European upper airspace with four or five centers (in the current situation, each country has at least one center, large countries such as France, Germany or the United Kingdom have several). The creation of a market lay within the framework of a general development where the deregulation of air transportation and the privatization of airports and control towers had created real markets. How could the European ATM have lasted as a legal-technical device, like an isolated islet on an ocean of markets?

However, the insertion of the ATM in an economy of competition and profit stumbled against the sovereignty of nation states. In particular, states put military issues in the forefront to keep in place their national service providers of air traffic control. It was an excuse more than anything else, since the European military are aware that an efficient air defense is impossible in the framework of one single country: Paris is only two hundred kilometers off the boundary with Belgium. At a time of jet fighters and crusader missiles, the air defense of Paris takes place far away from French boundaries. That is why European Air Forces strongly cooperate within NATO. But of course, it is also true that they must be able to take over the national sky in case of a major crisis. This can be guaranteed, even if the upper airspace is normally managed on a European basis.

The crucial issue was not really there. Any transformation of the European ATM industry into a market would have deeply changed the multiple cross-subsidization mechanisms established by the legal-technical device. As said before large aircraft pay for smaller ones, and big international air carriers for regional companies. Regional companies could therefore disappear with the introduction of market mechanisms. Besides, the separation between upper and lower airspace emphasizes the fact that upper airspace is far less costly to control than the lower. In the upper airspace, aircraft remain at the same altitude. In contrast, when approaching the ground, they change altitude and direction. The control task is far more complex and costly. When upper and lower airspace are not separated, high-altitude flights pay for flights that leave or approach airports. US companies that fly over Europe pay for European carriers that use airports in the continent. If, however, upper and lower airspaces were separated, US companies would end up paying less, and European ones more. The development of a market would make visible the existing hidden cross-subsidization; thus, European air carriers, which would be inclined to favor the development of a more efficient market, actually block it.

At the same time, the legal-technical device has shown a true capacity of innovation. When delays reached a maximum, an organization, the Central Flow Management Unit, was set up to manage in real time the disequilibria between the demand from the air carriers and the capacities offered by the European service providers of air traffic control. The disequilibria could have been interpreted as a classic economic issue, as an imbalance between supply and demand to be dealt with by such economic tools as congestion pricing. The economic approach was discussed, but not adopted. Rather, a management algorithm was chosen, which follows the principle of *first-come, first-served*. It processes flight plans one after the other and, if demand exceeds supply (the capacity of control), it stops aircraft on the ground. Before the implementation of that algorithm, aircraft took off and were delayed in flight. This costed a lot in fuel. The new device has therefore positive economic consequences. Nevertheless, it is not a performation of theoretical economic ideas or of a spontaneous economic reasoning, but rather an engineering device with a law principle: treat every aircraft, which means every company, big or small, on an equal footing. In the same perspective, the European Commission, with its plan for the industry (The Single European Sky), created another legal-technical device, the Functional Airspace Blocks. It is inspired by the idea that considerable technical efficiency gains could come from organizing control according to airspace blocks larger than the national airspaces. The FABs were created by a European rule (law) with a technical basis (they must be « functional »); they therefore constitute a legal-technical device. The economic dimension was left backstage.

At the very beginning, FABs were seen as concerning only upper airspace. But the upper/lower separation was later abandoned to avoid cross-subsidization. Another example is given by en-route charges. They remain collected by the states for the flown distance in their own sky. Let us suppose France and Switzerland decide to establish a FAB, putting together part of their airspace. If the aim is a better functional performance, routes will probably be modified, and become more rational than the previous ones, which took into account the boundary between France and Switzerland (the new route will be shorter in the French sky, for example, and longer in the Swiss sky). But every change of a route will create a loss for one of the countries, and a mechanical gain for the other (here a loss for France and a gain for Switzerland). Technical restructuration is therefore impeded by its economic consequences.

In conclusion, performation by economics failed to replace performation by law, with the helping hand of engineering to shape the device. This failure operates at the general level of attempting to transform the industry into a market. Economic elements were nonetheless introduced into the legal-technical device. Some public service providers have been transformed into economic agents through privatization. In the United Kingdom, for example, a licence has been given for thirty years to an alliance of airline companies led by British Airways through an auction mechanism. The framework nonetheless remains the entire national sky, not separated into an upper and a lower airspace. Economic agents have been set up, but without the creation of a European market device. Economics stepped in with the proposal for substitutes for market mechanisms, something on which academic economists have been working since the 1980s. Such mechanisms mainly consist in regulatory policies. The European Commission imposed on each country a separation between regulation and service provision, and established a regulator. As a result, for many countries, the process included the creation of a privatized economic agent at the level of service provision, and of an independent economic regulator at the public administration level, without, however, leading to the creation of a market. At the

same time, a « sunshine » regulatory authority, the Performance Review Commission, was set up at the European level, disposing of no real power except the one to publish reports on performance issues (McCraw, 1984). Thus, some economic elements were incorporated into a legal-technical device.

Discussion

Obviously, it would be risky to generalize from this case, and simplistic to think the case could falsify or refute the performativity approach to economics. Interpretation is far more complex. We will therefore insist on further potential research paths.

1. In Michel Callon's approach to performance or performativity, two apparently contradictory tendencies seem to coexist. On the one hand, Michel Callon states that, like other social sciences, economics is performative (see the debate in Callon, 2006). On the other hand, when analyzing performativity, Michel Callon focuses on economics in a particular manner, and, as we discussed above, emphasizes some particular features, such as the current trend in experimentation. Our case suggests that the two positions are not really contradictory. One could think that two social sciences such as law and economics have a particular status in terms of performativity (the idea that law is different from other social sciences has been developed by Günther Teubner from the perspective of autopoiesis; see for example Teubner, 1987). Our case suggests that the particular status of law and economics derives from the fact that both can at the same time define great principles (liberty, equality and due process for law, performance for economics), and mobilize techniques to set up devices which will operate the performative process. Law and economics sometimes compete with each other, and that brings about situations in which one dominates over the other, and in which the dominated formulates strong critiques vis-à-vis the dominant. In our case, law dominates, and economics tries to step in from the performance perspective. If our analysis is right, the opposite situation might also be found. The question remains open of whether other social sciences could compete with law and economics in defining great principles to evaluate empirical situations and mobilizing techniques to set up devices.
2. When analyzing the competitive process of performativity, it seems interesting to pursue Foucault's dynamic approach, which separates moments of urgency, especially during the creation of devices, from periods of routine. When the ATM device was established, the object of urgency was not performance, but the litigation between national sovereignty and liberty of flight. A legal-technical device was adopted instead of an economic one. Only long after that, the performance issue surfaced, in a situation characterized by a legal-technical performance. The change towards an economization of the industry ran against three main elements. First, inertia or path-dependence. Williamson (1999) has highlighted that establishing a market in a different institutional frame must be analyzed with the "remediableness" criterion in mind. Indeed, it is always difficult to compare an existing institutional framework, with its positive and negative, but long-operating elements, with an ideal alternative. *Status quo* is not an option like others, since there is a premium on existing devices (Beach, 1990). The second element that opposes the movement against economization is the legal-technical device's capacity to innovate. As seen above, the device was able to invent non economic algorithms to manage the discrepancy between supply and demand of air traffic control or to establish a

legal-technical as complex object as the FABs. Third, the existence of cross-subsidization. Agents that seemed to favor the industry's economization, e.g. air carriers, turned out in the end to be very conservative, and sought to maintain the legal-technical device to preserve the hidden financial flows of cross-subsidization. There thus seems to be « moments of performance », and these moments could be of different kinds.

3. The case highlights the difficulty of identifying mechanisms through which a law-technical device could give way to an economic device. In examining the performance of economics, Michel Callon has identified three elements: algorithms, devices that provide agents with calculative equipment, and valuable, exchangeable goods. For these elements to function in our case, public administrations would have to become calculative agencies, the national airspace, which is an object of sovereignty, would have to be considered a valuable good, and market devices and algorithms would have to be established. But is it possible to set up all of this at the same time, and thus at once replace a legal-technical device that evolved progressively over a century? Which mechanisms could enable such a transformation, i.e. an economic performance of the industry? The most favored one has been privatization. A market was supposed to emerge if agents were to transform themselves into calculative agencies. In 1998, privatized service providers established a trade association, CANSO to promote economic behavior. As we explained, however, two obstacles hindered the development of a market: the existence of a competitor device, and the fact that the airspace did not become a valuable good. In Michel Callon's view, the device is the crucial factor. Devices act, more than individual agents do. But who are the agents that push and orient the creation of a device, and with what purpose? We here turn again to Foucault: devices are established at particular moments marked by a sense of urgency, and with an intent linked to this urgency. The initial aim can disappear and be replaced by another, as well as by multiple functions that make the device last. But are there other types of mechanisms to create devices? This question seems to remain open.

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