

THE CHARACTERIZATION OF GOODS AND SERVICES: AN ALTERNATIVE APPROACH

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The definitions of goods and services have been debated among economists for more than two centuries. This article seeks to consider the definitions currently used from a critical perspective and to offer a new general definition of services that is compatible with the existence of several demand rationales.

There is no consensus today among economists as to the theoretical characterization of service activities and their outputs (“services”), and yet, as we shall see, it is generally assumed that certain differences do exist between tangible goods and services, and that these differences have an impact on economic analysis. In fact, this absence of consensus can be traced back to the early debates among classical economists on productive labour.¹ It may seem curious that the complex edifices of the major economic theories and of national accounting are constructed, in this area, on perfunctory, ambiguous definitions, particularly since we are dealing with what may well be the major division in the activity and output of developed economies.

This paper sets out to examine, from a critical perspective, usual approaches to the distinctions between goods and services, with a focus on the specificities of services, as defined in these approaches. This examination will serve as a basis for developing a new, institutional definition. The argument will be advanced in three stages. We will begin (Part 1) by a critical examination of the approaches usually adopted by specialists in the economics of services when developing technical characterizations of these activities and their products. In the next stage (Part 2), we give pride of place to the pioneering work of Peter Hill and to contributions in a similar vein, the limits of which will also be analysed. This will lead us to advance a new, more comprehensive characterization of the production and consumption of services, according to three demand rationales (Part 3).

This analysis is not about semantics. Vague concepts and fuzzy definitions of services may lead to inappropriate product and industry classifications, and encourage erroneous modelling of the growth of services. They may influence the decomposition of values into price and quantity components, with consequences on the measurement of inflation and growth. Other examples of the importance of the conceptual definition of services in economic analysis will be given at the end of this article (Part 3.3).

¹See Delaunay and Gadrey, 1987 and 1992.

1. THE DEFINITIONS BASED ON TECHNICAL CRITERIA DERIVED FROM THE CLASSICAL ECONOMISTS

Studies of the past thirty years that deal explicitly with the question of how to characterize services (always in relation to the characterization of material goods) offer two types of response. In the first, various technical criteria are advanced, more or less the same ones as those used by the classical economists, sometimes a combination of them. The second, which takes as its starting point what is today the most widely cited definition, namely that of Peter Hill (1977), seeks to set forth a characterization of “service situations” and of their outcomes that is both socio-technical and more synthetic. They will be examined in the next section.

1.1. *The Technical Characterizations: Three Different Approaches*

Three different approaches have been adopted by those who have sought to use technical criteria as the foundation for a specific definition of services.

The first approach constitutes an extension of the definitions advanced both by Smith and by Say. A service is defined as a product which, in Smith’s words, “perishes in the very instant of its production,” or which, as Say put it, is “immaterial.” *A priori*, a distinction could be made in theory between the evanescent nature of the product, on the one hand, and its immateriality, on the other. In fact, however, these concepts function as synonyms because the notion of immateriality is not specified. Alfred Marshall, for his part, took the view that such goods “pass out of existence in the same instant that they come into it.”

The second, more recent approach takes as its starting point the notion of co-production, that is the cooperation or interaction between producer and consumer in achieving the desired outcome. There is little trace of this concept in the history of economic thought, with one remarkable exception, namely H. Storch. In recent times, the notion that co-production is a distinctive characteristic of services has played an important part in the work of Singelmann (1974), Fuchs (1968), and De Bandt (1995). Nevertheless, it is noticeable that this second approach focuses less on the specificity of the outcome of service activities than on the process. According to Daniel Bell (1973), author of one of the most important and best researched books on the development of the “post-industrial society” (or the service society), “the fact that individuals now talk to individuals, rather than interact with a machine, is the fundamental fact about work in the post-industrial society” (p. 163).

Finally, in the third approach, the fundamental characteristic that distinguishes services from goods is the fact that they cannot be held in stock. Reference is sometimes made to an additional technical property, the fact that services cannot be transported. For T. Stanback (1980), this dual property clearly distinguishes services from goods, which are both storable and transportable. In this case, it is certainly the output that is being characterized, not the process. Like the first one, this third approach takes its inspiration from the classical economists, but it seems at first sight to be more precise and more operational, in the sense that it provides criteria for making a practical judgement, which can hardly be said of the notion that the product is immaterial or evanescent.

Before we proceed to a critical examination of these three approaches, it should be noted that the first and third characterizations are “negative” ones (services are defined as not-X, with X being a recognized property of material goods), while the second one is positive. However, it is also the only one of the three that relates to the process rather than the output.

1.2. *Critical Examination of These Three Approaches: Relevance and Consistency*

It is impossible to attempt a critique of these approaches solely on the basis of the “facts.” This would be to suppose that the facts would allow us to resolve matters without ambiguity and that, if appropriately interpreted, they would reveal the classifications, divisions and rules of the set that they constitute. Without wishing to enter into this traditional epistemological debate, we will merely note that, in our view, this critical evaluation can successfully combine tests for consistency (are these approaches compatible, for example, with the classifications of economic activities in daily use by economists and specialists in national accounting and, if not, where is the greatest degree of logical consistency to be found?) with tests for relevance based on the introduction into the argument of a few observable situations (stylized facts).

The Immateriality of Services and the “Immediate Perishability” of Their Output

These characterizations are probably the ones that are most easily undermined *today*, in the light of the present technical, economic and scientific context. Storch was a precursor, but it was Say who acknowledged, albeit more ambiguously, in his observations on what today would be called human capital, that the outcomes or “output” of many service activities are lasting and may even be susceptible of accumulation, since they constitute genuinely material changes in the realities on which service providers work, whether they be goods, individuals, organizations or information. Nevertheless, in order to fully accept the validity of this criticism, we need to reconsider the two concepts that lie at the heart of the approach in question: the notion of output, and that of materiality.

As far as the “output” of services is concerned, it is clear that the evanescence assumed by Smith, drawing on the example of servants’ work, is based on a convention (born of Smith’s political hostility to the aristocracy’s expenditure on its own upkeep) that equates output with the immediate act of delivery, with the work itself. However, there are other possible “output conventions,” and there is every likelihood that they can become established in modern economies, particularly those which, over and above the immediate act of delivery (the “direct” output), involve a “change of state” in the reality subjected to the service provided (indirect or mediate output). Let us return to the example of the servant. If it is his or her task to attend to the cleanliness and tidiness of the premises, then the output or outcome of the servant’s efforts does not vanish when the work is done. The result is visible, tangible or easy to spot; it is semi-durable and can be evaluated on the basis of material criteria (which is something that commercial cleaning companies are now experimenting with, particularly when they embark on certification procedures). What is true of servants’ work also applies to health, education, consultancy, repair and social services, among others. In none of these

cases does the output “vanish,” as Adam Smith put it, and if we were to adopt his output convention, based as it is on the act of delivery itself, we would have to ask him—posthumously—the following question: why does this same convention not apply to industrial work which, as an immediate act, vanishes just as completely as that of the servant does once the task in hand has been completed? Why does the outcome of the work have to be taken into account in one case and not in the other?

As far as immateriality is concerned, the question to be resolved is whether the final output is material or immaterial. In any activity, a distinction can be made between two different concepts of the materiality of the output:

1. The final output of the activity is material if it takes the form of tangible things that have an existence in time and space that is independent from that of their producers, their consumers and the production processes that led to their creation. This definition is fairly close to Adam Smith’s concept of materiality, which we will denote by the term “tangible materiality.” From this point of view, *virtually* all the products of service activities (as defined in modern national accounting systems) are immaterial. I say *virtually* because of some anomalous situations. For example, when a wholesaler sells goods to a retailer, those goods are tangible, autonomous objects. True, the wholesaler has not “produced” them (in the widely accepted though perhaps misleading sense of the term), but he has changed their state, their location in time and space and sometimes certain other characteristics relating to their availability. The changes might even be said to be similar in scale to those that take place routinely in some “processing” industries in which activities are confined to final assembly. Is his output made up of these goods in the final stage of their “distributive state?”² In this case, the wholesaler’s activity can be said to fall within the sphere of material production. Is his output merely a set of secondary operations on goods that were already finished in terms of their useful characteristics? If that is the case, then his output is intangible. We will return to this subsequently when we examine the notion of the identity of goods.

2. The output of an activity is material if the activity transforms the matter (the state of reality) on which it acts and if the transformation is *observable*. The second condition is not a merely technical one. It also has a social dimension: an agreement has to be reached on the methods and the results of the observations. The adjective “observable” here replaces the adjective “tangible” used in the previous definition.

In this approach, *the observable transformation of a state (output as outcome)* may just as well concern an individual’s state of health, level of education or access to information as the functioning of devices, technical systems or groups and organizations. From this perspective, all service activities, without exception, have observable material outputs (outcomes). This does not eliminate certain differences, to which we will return, between the classical form of tangible materiality, embodied in separable objects, and the modern form of observable materiality of the effects, which concerns many activities. Nor is this sufficient to resolve the question of a possible specific definition of services. However, this

²To use the words of P. Avril (1964).

approach at least has the merit of accepting that non-manufacturing activities also lead to material changes, with outcomes that can be observed by technical means that go beyond mere subjective assessment of intangible satisfaction.

Co-production, Cooperation or Interaction Between Producer and Consumer in Obtaining the Product or Outcome

Whatever the importance of this characteristic (first identified by Storch) in many services, it is increasingly clear that it can in no way provide a basis for a specific definition of services. Firstly, as we have already noted, it relates to the process and not to the final output, which is ignored completely in this approach. Secondly, and most importantly, one of the characteristics of post-Fordist manufacturing is that there are much closer links than in Fordist productive systems between producers, subcontractors and consumers as a result of the direct relationships between the various actors, including the producing organization itself, which in many respects resemble service relationships. Thirdly, and finally, many service activities (as defined in the current classifications) are not very “relational” at all, characterized as they are by very restricted interaction with customers or users, self-service or the anonymous provision of standardized services. It is misleading, therefore, to see them as involving particular modes of cooperation.

The Non-storable and Non-transportable Nature of Services

In this characterization, goods can be held in stock and transported, whereas the output of service activities cannot be. While the word “stock” denotes the storage, for a certain *time* and in a certain *space*, of a good in order to preserve it or keep it for future use, it is more or less tautological to say that the only products that can be stored are material entities that have an independent existence in *time* and *space* relative to their producers and consumers. However, things are not so simple if it is conceded that the notions “stock” and “storage” can be given the same treatment as that which would now appear to be necessary for the term “materiality.” First, the example of electricity shows that the non-storable criterion does not always lead to classify an activity as a service provision. Second, and more importantly, attention is increasingly being focused on the storage of information and “informational assets” (Ribault, 1993) and of stocks of individual and organizational knowledge (Nelson and Winter, 1982) and on the conservation of natural and cultural heritage, and it seems clear that the extension of the meaning of these notions (stock, storage, heritage) runs parallel to, and is logically linked with, the extension of the meaning of materiality: the storage criterion, which would appear to be less philosophical and more concrete than that of tangible materiality, is in essence identical with it. Thus if the concepts of stock and storage can be extended in this way, one that is more in keeping with contemporary approaches to production, it can readily be acknowledged that the output or outcome of many service activities is not only durable but can also be stored—indeed how could it endure without being stored somewhere?

To pick up on Hill’s resonant phrase, to the effect that a hospital can lay in stocks of scalpels but not of surgical operations (Hill, 1997), it can be said that, in this case, as in that of Smith’s servant, there is a confusion between the

immediate act of delivering the service and its effects on the reality that has been “operated upon.” The outcome of one hundred (successful) heart transplants is made up of an observable “stock” of one hundred individuals with transplanted hearts or, if we prefer, a lasting change of state in those individuals’ “health capital.” Manufacturing firms do not store acts of labour either, only their ultimate effects on the processed material. It is not clear why this analytical principle should not be applied to services.

This does not preclude the existence of various modes of storage that have effects on the economics of the products stored. One fundamental distinction has to be made in this respect. In some cases, the producer can store the output of his activity *independently of the consumer, and prior to the sale of the product*,³ in others (training, health services), the output is embodied in the consumers, and it is here that the “variations in stocks” (or assets) that they are holding can be observed and evaluated. In the second case, it seems technically impossible for producers to hold inventories of their products prior to the sale. However, can this distinction (the possibility versus the impossibility of holding inventories prior to the sale), which is clearly important in some respects, be the base of a new, purely technical distinction between goods and services? This is unlikely, for two reasons. First, the mention “prior to the sale” is not a technical characteristic, but an institutional one. When an individual or an organization needing a good, pays a producer in advance, prior to the production of this good (such cases are not unusual), it is difficult to admit that this arrangement by itself transforms the production of a good into a service delivery. If we did so, we would have to agree that a purely technical definition of services is impossible. Second, with the growing importance of on-line services based on the sale of information or consultations of databases, the idea that certain services can be stored by the provider prior to their sale can be defended with some arguments, even though we will later put forward another interpretation (part 3.1).

The transportability criterion lends itself equally well to the same treatment as the non-storability criterion. Thus, having completed our critical examination of the technical criteria most frequently used to characterize services by distinguishing them from goods, we are forced to conclude that such approaches have not taken us much further forward than those adopted by the classical economists. They remain entrapped within a restrictive vision of the tangible materiality of “things,” merely defining services (or their output) in opposition to this “common-sense” criterion that has its roots in the age of traditional manufacturing industry. Can the difficulties already alluded to above be surmounted with the aid of the more synthetic and “socio-technical” definitions advanced by Peter Hill, and those derived from them?

2. ERVING GOFFMAN, PETER HILL AND THE SERVICE “TRIANGLE”: SOCIO-TECHNICAL CHARACTERIZATIONS OF SERVICES AS A SET OF ECONOMIC AND SOCIAL RELATIONS

This section will be divided into three parts. We will begin by outlining Peter Hill’s initial attempts to set forth a definition of services and our own notion

³I sincerely thank one of the referees of this article, who drew my attention on this issue.

(close to Hill's approach but influenced also by Goffman) of the "service triangle" (Part 2.1). We will then summarize Hill's second major contribution, made very recently in 1997 (Part 2.2). Finally, we will attempt to assess the contribution and limitations of these characterizations (Part 2.3), in terms, once again, of their overall coherence and relevance.

2.1. Peter Hill's Initial Definition and the "Service Triangle"

In 1977, Peter Hill set forth the following definition of services, one that has since been widely adopted in the international literature:

"A service may be defined as a change in the condition of a person, or a good belonging to some economic unit, which is brought about as a result of the activity of some other economic unit, with the prior agreement of the former person or economic unit."

This is a long way from the notions of materiality, of storability and of perishability, none of which criteria any longer figures in the definition. What Hill describes is a *service situation* or a *service relationship that revolves around a procedure leading to a "change of condition"* (which we have also called a change of state) that is desired or asked for ("prior agreement") by an economic agent (consumer, customer or user) who owns the reality that is to be transformed (his or her own person or property . . .) and who commissions another economic agent (service provider, producer) to effect the desired change. This synthetic definition of a service situation is "socio-technical" in nature: a technical operation is clearly carried out on the reality that is to be transformed, but it is framed by two types of social relationships, namely a "request for intervention," which initiates a service relationship, and property or ownership relationships (the reality to be changed belongs to the person commissioning the service, or is under his or her control). On the other hand, the technical nature of the output or outcome (its relationship to materiality), which was the anchor point for the definitions outlined earlier, plays no role. The output, or outcome, is the change of state in the reality that is the object of the intervention.

In our book written jointly with Jean-Claude Delaunay (1987), we put forward an immediate objection to this definition: logically, it must lead to employees in a firm (whether manufacturing or services), who are of course recruited to transform the goods belonging to the owners of that firm's capital, being regarded as providers of services (to their employer). A position of this kind might well suit the heirs of Say and Bastiat, but it is not compatible with contemporary classifications of services and conflicts with Hill's objective of establishing the theoretical foundations for a relevant distinction between the production of goods and that of services.

In our attempt to surmount this difficulty, in which we also drew inspiration from the writings of the sociologist E. Goffmann (1961), we suggested that Hill's statement should be specified and at the same time expanded by putting forward the following definition: "a service activity is an *operation* intended to bring about a *change of state* in a reality C that is owned or used by consumer B, the change being effected by service provider A at the request of B, and in many cases in collaboration with him or her, but without leading to the production of a good

that can circulate in the economy independently of medium C.”⁴ We coined the term “service triangle” to signify this definition since it lends itself to a diagrammatic representation in the form of a triangle ABC. The main difference between our definition and Hill’s lies in the additional qualifying clause: “the output of which cannot circulate in the economy independently of C.” This clause, which excludes from the definition of services the productive activities of workers employed by a manufacturer, does not indicate a return to a “negative” technical definition of services, since *economic circulation is not the same thing as circulation in space*, but refers rather to changes of ownership, to an economic transaction.

Before we subject these definitions to critical scrutiny, we need to outline Hill’s second contribution, made twenty years later.

2.2. *Tangibles, Intangibles and Services: Hill’s New Taxonomy*

At an international conference on productivity in services held in Ottawa in April 1997, Peter Hill presented a very significant paper entitled “Tangibles, Intangibles and Services: A New Taxonomy for the Classification of Output.” Building on earlier approaches to services and wealth in the history of economic thought, he set out a new taxonomy that can be summarized as follows.

(a) Goods: a Socio-Technical Characterization

We begin with the general definition of a good, whether it be tangible or intangible. According to Hill, “a good is an entity over which ownership rights may be established and from which its owner(s) derives some economic benefit.”⁵ Since ownership rights can be attached to it, a good can be exchanged, or traded.

Not all goods defined in this way are the result of a production process, since some are found in nature. Nevertheless, when they are produced, as they normally are, the production process has two major characteristics that are not found in the case of services. Firstly, the entire output of the production process is the *property* of the producer (he can dispose of it as he sees fit), and the same applies to all the goods (in Hill’s sense of the term) used as intermediate inputs in the production process. “If there are some inputs that are not owned by the producer, the producer cannot own all the outputs, in which case the producer is engaged in some kind of service activity.”

(b) Tangible and Intangible Goods

The main original feature that distinguishes this paper from the previous ones is contained in the following statement: “Most goods are material objects . . . However, there are also other kinds of entities which have all the economic characteristics of goods. These consist of intangible entities.” They are defined by Hill as “originals,” as the fruits of creative activities (“of a scientific, engineering, mathematical, literary, artistic or entertainment nature”) or of the production of new knowledge and new information.

⁴“We deal with a triangle: practitioner, object, owner” (Goffmann, 1961, p. 285).

⁵This second reference is intended simply to distinguish between “goods” and “bads.” It plays no further role.

Such situations can be summarized in the phrase “production of an original.” These “originals” can generally be recorded or stored on various physical media, which enables them to be read or used by people other than their creators and to be duplicated at a cost that is usually very low compared with the cost of producing them. However, the originals have to be distinguished from, firstly, the physical media on which they are stored and, secondly, the copies that are made of them. These copies are objects (usually durable ones) variously located in space, whereas *the originals themselves have no physical dimensions or coordinates* that play any role at all in defining them.

However, it is difficult to apply this notion to certain original creations, such as the works of painters and sculptors, that seem to be indissociable from their original materials and their creator and which, when copied or reproduced, do not have the same value or characteristics. Thus it would seem that Hill’s definition applies only to *intellectual creations of which the original and any copies that might be made share the same useful characteristics* (a computer programme, a chemical formula, a plan, etc.), which are, incidentally, the creations of greatest significance in developed economies. It is this same property which, in our view, explains why the “physical coordinates” of these originals have *no economic importance* at all, even though such creations, which are frequently stored on an inert medium, may be precisely located, locked in safes or deposited in some other safe place. In reality, original paintings and sculptures are *non-reproducible tangible goods* (any copies, however faithful they may be, have to be considered as goods separate from the original) whose value to any purchaser is derived largely from the personalized relationship they have with their creator.⁶

(c) Services

Services differ from goods in that they are not entities that can exist independently of their producers and consumers. Returning to his 1977 definition, Hill defines them as *changes* in the condition or state of certain realities brought about by an economic agent at the request of another agent who owns those realities. *Now a change of condition or state is not an entity.* The notion of storage cannot be applied to most services, since changes of state cannot be stored. Similarly, since a service is not an entity, it is impossible to establish ownership rights over a service and ownership cannot be transferred from one agent to another: “it is not possible to trade services independently of their production and consumption.” Consequently, “it is not possible, for example, to produce services in one country and *then* export them to another country . . . services can be, and are, exported, but only by resident producers providing the services *directly* to non-resident consumers.”

We will conclude this summary of Hill’s main arguments with two significant examples of his approach. Hill compares the production of motor vehicles with the distribution and repair of same. In his view, the principal difference between these two activities is not a technical one but stems from the fact that the output of the manufacturing process is made up of separate entities (i.e. vehicles) over which the manufacturer has full ownership rights. They are at his disposal to be

⁶This formulation was suggested to us by François Horn.

sold, stored or transported. And even though it is destined for a world market, the entire output could, in theory, be concentrated in a single plant. Conversely, the motor repair industry “must reflect the pattern of vehicle ownership. Garages work on goods which are owned by their customers. The output of garages does not consist of repaired vehicles but repairs.”

The second example of Hill’s approach concerns certain types of subcontracting, in which a manufacturing firm A outsources to subcontractor B operations such as assembly or finishing, for example, involving parts or components of which A is the owner (a modern version of the “putting-out system” of the early days of industrialization). Thus, in Hill’s view, subcontractor B is a producer of services, even though, in the widely accepted “materialist” approach (and in national accounts), it is part of the manufacturing sector. In sum, “service production requires a relationship between two or more different economic units, and it is the existence, or non-existence, of such a relationship which may determine whether the activity in question leads to the existence of a good or a service, rather than the nature of the activity itself.”

2.3. *A Critical Examination of Hill’s Characterization of Goods and Services*

This critical examination will not focus on the distinction, within the category of goods, between tangibles and intangibles. This is, in our view, a genuine conceptual innovation whose scope is likely to extend beyond that of a contribution to studies of national accounts to influence, for example, the economics of innovation, of information and of knowledge. Rather, we will investigate the respective characterization of goods and services in the two (complementary) definitions advanced by Peter Hill in 1977 and 1997; it coincides in essence with our own definition of the “service triangle,” some of the limitations of which were discussed in our book (Delaunay and Gadrey, 1987, p. 213).

Let us return to what seem to be the essential elements in Hill’s specification of what constitutes a good and a service.

A good is: (1) a (tangible or intangible) entity that exists independently of its producer and its consumer; (2) an entity to which ownership rights (private or public—Hill does not make this point, but it seems to be necessary) can be assigned and that can therefore be resold by its owner.

A service: (1) is not an entity; (2) requires a relationship to exist between the person seeking a service and the service provider (request for intervention); (3) concerns an entity C (individual, good, material system) owned by the person requesting the service; (4) has as its output S a change in the condition or modification of the state of this entity C. No specific ownership rights can be assigned to this output, so there is no possibility of S being resold independently of C.

Putting these definitions into practice raises two questions, in our view.

(a) Firstly, what is an entity? Hill alludes on several occasions to the notion of an “independent existence” (independent of its owners, producers and consumers), and he makes reference to a dictionary definition: “a thing that has a real existence; a thing’s existence as opposed to its qualities or relations.” However, we are clearly going round in circles here: what is the “independent existence” of an entity? What are the criteria? The definition seems to be based on the purely

technical criterion of physical separateness. At one point, however, Hill offers a lead that he does not follow up, when he writes: "A good is an entity that preserves its identity through time."

In our view, in fact, it is impossible to avoid going round in circles or embarking on a philosophical investigation into the existence and objectivity of reality (an interesting exercise, but one unlikely to lead to any resolution of the question posed) unless it is accepted that only *the social and historical identity* of the realities in question can provide a starting point for defining, in a given historical and scientific context and therefore on the basis of *conventions*, the relevant entities in economic analysis, and in particular the distinction between goods and services.

We will take an example used by Hill (the production of motor vehicles, on the one hand, and the distribution and repair of motor vehicles, on the other) to illustrate our argument. The heart of Hill's argument runs as follows: the relevant entity is the vehicle, once it has been produced. It can then be sold: it retains its identity as an entity. It can even be resold by its first user, or repaired: it still has the same identity. The registration may change, the performance may deteriorate, but it is still the same entity, as evidenced, for example, by the maker's badge (which is frequently a key element in the car's social identity), identification or serial numbers, vehicle registration documents or other "branding" procedures that certify the vehicle's origin or "birth." Thus the identity of goods, like that of individuals, can be recorded in "identity cards," and both grow old while retaining the "markers" that have identified them since "birth."

In some cases, and the car is one such, the identity cards in question are individual, sophisticated and supplied with institutionalized markers. Other types of goods (food products, for example) have group or series identity cards with little in the way of individual markers. There are even some goods, whose "birth" and subsequent passage through the world are little monitored, that have informal identities not registered on cards. *The process of attributing an identity to goods is firmly rooted in conventions*, whether or not it is overseen by appropriate institutions, since there is no obvious technical or economic reason why a new car fresh off the production line should be regarded as the same entity as "that" car sold by a dealer or as the one taken to a garage for servicing and repairs a year later or even as the car subsequently offered for sale in the second-hand market (and which will then acquire a new vehicle registration document which, in the eyes of the constabulary, constitutes the vehicle's identity). It might even be said that many modern economic theories, concerned as they are largely with partial or general market equilibrium, do not take this approach and require new and second-hand vehicles to be considered as fundamentally different "goods" (rightly so, if the objective is to analyse markets). And yet, it is impossible to ignore the incessant social production of *conventions surrounding the identity of goods*, which play a fundamental role in establishing the boundaries between manufacturing and service activities. If it is assumed, *in a manifestly conventional way*, that the vehicle taken to a garage for repair is "the same" as the repaired vehicle (or even that the vehicle sold by a local dealer is the same as the one that left the factory), then the repair and sale of that vehicle clearly constitute what Hill would recognize as operations leading to a "change of condition" in an entity

that maintains the same *social* identity, despite the various technical transformations it may undergo and any possible changes of ownership.⁷ In other conventional frameworks, it could very well be considered that a used vehicle sold in the second-hand market changes identity at the same time as it acquires a new registration document and that it is therefore no longer the same “entity.”

In our view, the criticism that can be made of Hill’s definitions in this area is that they oscillate unsteadily between the technical notion of entity and the idea that these entities have an identity that enables them to withstand the wear and tear of time and changes of ownership. This oscillation cannot be stabilized unless it is accepted that there are conventions at work, often underpinned by institutions, that arbitrate in various ways between the technical and social criteria that make up this socio-technical representation of the nature of the output (good or service) in order that an identity can be attributed to goods.

(b) The second question raised by Hill’s definitions relates more specifically to services and to the particular requirement that a relationship has to exist between a person seeking a service and the provider of that service. We have already mentioned (Part 1.2.2) that claims that such relationships are specific to services are not well founded.

3. TOWARDS A REDEFINITION OF SERVICES: A CALL ON THE CAPACITIES OF OTHERS, AND THREE POSSIBLE DEMAND RATIONALES

We now come to the main limitation of Hill’s definitions (and of ours). It is different in kind from the previous ones. It relates rather to the ability of these definitions satisfactorily to cover the extreme diversity of the field of activities in question and their outputs. These definitions do seem to be fairly well suited to services involving requests for aid or “repair” (in Goffmann’s sense of the term), maintenance, intervention, material or intellectual assistance, etc. Are they equally well-suited to other services, such as those provided by the hotel and catering trade, retailers, telecommunications companies, television, live entertainment and tourism, where it is much more difficult to discern what might constitute “the change of the condition of a person, or a good belonging to some economic unit”? Should the customer of a restaurant or hotel be regarded as the “entity” that expects such services to provide “the change of condition” that will turn a hungry or homeless individual into a replete or sheltered one? Are we to take the view that a member of the audience in a theatre or concert hall undergoes an identifiable change of state that is the real output of the activities he or she is witnessing? We come up against a serious difficulty here, one that will lead us to identify other demand rationales, and ultimately to put forward another general definition of services.

3.1. *The Demand Rationale: From Aid or Intervention to the Provision of Capacities*

Let us start with the example of the retail trade. This is a complex service activity, which deals with material entities (which are made available in both time

⁷It might even be said that, in many cases, one of the functions of sales and repair networks is to preserve the social identity of goods as much as their technical performance.

and space through changes in their “distributive state,” to use the phrase coined by P. Avril (1964), with information (on product prices and characteristics, notably), which is also made available to customers, and, at various stages of these processes, with people, the customers themselves. It is these three types of “changes of state” that customers expect when they make use of such services. They are, therefore, the beneficiaries of these sequential or simultaneous processes, the first two of which put goods and information at their disposal in a suitable way and the third of which involves their own person as they engage in direct interactions. Do these functional distinctions help us to decide whether, in any application of Hill’s definitions, retailing should be regarded as a manufacturing or service activity?

In fact, the “processing” of goods and information does not in any sense constitute an intervention in any realities or entities *owned or controlled by customers*. Allowing for exceptions, retailers own the goods or information until the moment of sale. It can certainly be argued that the retail trade, like the wholesale trade (already alluded to above in the discussion of materiality), is, on the one hand, an activity that produces the final characteristics of manufactured goods (which are provided with a particular sort of “packaging,” namely their availability in time and space accompanied with information). From this point of view, it is a *processing industry*. On the other hand, it can also be seen as an activity that deals with people whom it assists directly, and in this respect it fits in with Hill’s definition of services. These two types of activities are closely linked and it is in fact the view of distribution as belonging to the service sector that can be said to have prevailed in the 20th century, whereas for the classical economists the reverse was the case. This is true, but is not enough to explain why the distributive trades (both wholesale and retail) are not today grouped with the manufacturing industries, since it would seem empirically that the most important functions (in terms of time and jobs) concern goods and information and that, according to Hill’s definition, only a relatively small share of its activities involve the production of services. Are we dealing here with an error of classification or a deficiency in Hill’s definitions?

Let us discuss this question more thoroughly by taking a second example, that of the hotel trade. Here again, there are three functions and three types of process, which involve (1) making available to guests rooms and public areas that are maintained and “repaired” on a daily basis, (2) providing guests with information and making reservations and transactions, and (3) a direct service function (sometimes very limited or even absent): reception, organization of events, entertainment and leisure activities, material assistance etc.

Only the third function clearly fits Hill’s definition of a service function. However, it plays only a relatively small role in the activities of the hotel trade. By far the most important function in economic terms is the first one, namely *the temporary provision of a technical capacity whose use characteristics are regularly maintained and “repaired.”* In a way, the retail trade is also an activity that combines the temporary provision of a system that gives access to goods and to information on those goods and their prices (the system is maintained regularly as the shelves are restocked and the information updated) with services in which customers are dealt with directly. Rental services (for cars or other goods) are an

even clearer example (making goods available is the major characteristic of the service), but telecommunications, on-line information and television services can also be analysed in these terms, since what is being purchased is the *temporary right to use a technical system* (which is maintained for that very purpose), combined with various direct services offering information, advice and assistance.

Thus this first relevance test leads us to extend Hill's definition by identifying two different demand rationales. The first is an *aid or intervention rationale*, with assistance being provided on receipt of a request for intervention, while the second involves the *provision of maintained technical capacities* (the adjective "maintained" is essential, since it denotes the service provider's activity) that customers or users can avail themselves of according to their needs in exchange for payment. The first rationale is adequately described by Hill's definitions and ours, but the second fits much less well because of the ambiguity of the notions of "change of condition" and "change of state" when a consumer uses, on what amounts to a "self-service" basis, a telephone, the underground, a hotel, an electronic home banking service, a television channel or the well-stocked shelves of a supermarket.

3.2. *Three Demand Rationales and a New General Definition*

This first extension of Hill's definition considerably enlarges its sphere of application, but it is not enough to cover the whole spectrum of observable situations. Indeed, it fails to encompass a third group of cases, namely those in which the capacities made available to users are not principally maintained technical capacities but rather human capacities "put on stage" in order to provide a live musical or dramatic entertainment of some kind that makes use of particular technical tools, stage sets and "actors" and has its own starting and finishing times.⁸ Such situations are not adequately covered either by a demand rationale involving the use of technical capacities or by one involving assistance or intervention of some kind. In the latter case, the consumer is helped in some way. In the entertainment or performance rationale, the consumer witnesses a live performance, usually but not necessarily in the company of others. This demand rationale applies to many tourist and cultural services, but it is also possible to analyse in these terms the services provided by restaurants, educational establishments and most services aimed directly at an "audience."⁹

We can now take a final step and adopt the view that services involving assistance and intervention, those that provided our starting point and are privileged in Hill's approach, also make available to the consumers of such services technical and human capacities (individual or collective competencies) in response to a request for intervention or assistance.

Any purchase of services by an economic agent B (whether an individual or organization) would, therefore, be the purchase from organization A of the right to

⁸Once again, we draw on Goffmann's work, and in particular his theatre metaphor, as a tool for interpreting social relations.

⁹These situations are named and described by Goffmann in his last writing (1983) in the following terms; "In the platform format . . . in which an activity is set before an audience . . . the obligation of the watchers is primarily to appreciate, not to do."

use, generally for a specified period, a technical and human capacity owned or controlled by *A* in order to produce useful effects on agent *B* or on goods *C* owned by agent *B* or for which he or she is responsible. With this new, but still provisional definition of service situations in mind, we will proceed with our deliberations.

Such a definition is by its nature institutional. The first reason for this is the fundamental role played by property relations, which bring various institutions into the equation. The second reason is that, at this stage, we are taking the view that there is no *economic* production of services unless the service provider is an *organization*, that is a properly constituted organization with a social status that makes it responsible for ensuring that the final product is duly delivered: a self-employed worker, company, association, government department, etc. It follows from this restriction that the purchase, by an entrepreneur or other organization, of a salaried workforce—which also constitutes a right to use human capacities for productive purposes—cannot be defined as the purchase of services, since wage or salary earners are not organizations. They can become organizations only if they acquire a different *status*, that of a self-employed worker or entrepreneur, for example, which confers on them the principal responsibility towards users for ensuring that the service is duly provided.

This new definition, which is significantly more comprehensive than Hill's, nevertheless raises two problems. Firstly, it seems to introduce a bothersome restriction. By excluding the so-called “productive” services of wage labour, an exclusion that appears to be legitimate and compatible with the conventions of national accounting, this definition at the same time excludes certain personal services (such as those provided by domestic employees and home helps) when they are provided within the framework of a private contract, thereby circumventing any service-providing organization, and when the wage earner is not a self-employed worker. Nevertheless, according to everyday language and the classifications of national accounting systems, such private arrangements do lead to the production of personal services.

The second problem raised by our provisional definition is a more serious one. One phrase that figured in our previous definition, “the output of which cannot circulate in the economy independently of *C*,” has in fact been eliminated. The purpose of this phrase was to exclude the purchase of a salaried workforce from the sphere of service transactions. In the new definition, the allusion to organizations fulfils the same function. Nevertheless, a difficulty persists when the purchaser *B* is an organization that produces goods and turns to another organisation *A* in order to ask it to take responsibility for part of that production (agency work, subcontracting of the assembly of components owned by *B* . . .) or to hire production tools from it. In such cases, according to our new definition, services are being purchased. This does not contradict the usual classifications of agency work and hire services. However, it does mean that the “industrial” subcontracting of capacities (i.e. those cases in which the subcontractor places his production capacities at the disposal of the principal but in which the latter owns *the inputs and outputs*) has to be classified as the production of services which, incidentally, is what Hill suggests in his recent approach, whereas the current conventions classify such activities as goods production. Such a choice seems to us to be logically defensible, and we will adopt it.

Taking account of these developments results in the following general definition of the production of services. The economic production of services is reckoned to take place in developed capitalist systems in the following two cases:

(a) when an organization A, which owns or controls a technical and human capacity (this latter can also be denoted by the term “competencies”), sells (or offers without payment in the case of non-market services) to an economic agent B the right to use that capacity and those competencies for a certain period in order to produce useful effects on agent B himself or on goods C that he owns or for which he is responsible.

In some cases, this use takes the form of an intervention, requested by B, in a medium C owned or controlled by B. This brings us back to our notion of the service triangle. In other cases, it comes down to the temporary use by B of a maintained technical capacity, placed at his disposal by A. In a third group of cases, it is a human “performance” (accompanied by its technical aids) organized by A and attended by B.

(b) when a household himself employs a wage earner to look after his goods or his own person (or possibly persons towards whom he has a duty of care: children, parents . . .).¹⁰

3.3. *Further Clarification of the Three Demand Rationales and Their Value to Economic Analysis*

We still need to clarify the basis of the differences between the three pure types of demand rationale, namely the assistance or intervention rationale, the provision of technical capacities rationale and the live performance rationale, given that each actual activity can be located at some point between these poles and combine the three rationales in varying proportions.

This difference is based on two criteria. The first is the method adopted by B to activate the capacities and competencies used (request for service or decision to serve oneself). The second is the nature (technical or human) of the capacities with which the user mainly comes into contact. In the first rationale, the one in which the user *is served or assisted*, there is a *request for intervention* made at a given moment by agent B and conveyed to organization A whose *action* (human capacities supported to a greater or lesser extent by technical tools) is expected by way of response. In the second rationale, the user *avails himself*, having taken a simple *personal decision* to do so, of a properly functioning technical capacity that A places at the disposal of B under agreed conditions. In the third case, that of the “performance rationale,” there is a *decision to attend a “human” performance*, under the conditions laid down by organization A or negotiated with it.

Most “relational” services, those whose production necessarily involves direct interactions, bring into play both the first and third rationales: such service situations entail both the transformation operations requested by B and staging and role-playing activities that go beyond the operational scenario. Similarly, some services, such as postal or transport services, are located at the boundary

¹⁰The use of the terms “household” denotes an economic function (or status) that, by definition, excludes those situations in which a wage earner is hired (by an entrepreneur, for example) for purposes of public production (market or otherwise).

between the intervention and provision of technical capacities rationales. These hybrid situations do not, for all that, invalidate the distinction between the three rationales as types.

The fact that a service activity is located predominantly within one of the three rationales has implications for the representation of that service as a product, that is for the “output conventions” that underpin market transactions and the evaluation and measurement of output and performance (Gadrey, 1996). In the assistance or intervention rationale, the most obvious outputs are, in Hill’s words, “the repairs” themselves, that is the changes in the state of the realities subjected to intervention. In some cases, in fact, this statement proves to be inadequate, since there are several different conventions that can be used to classify and evaluate the changes of state, depending in particular on the time horizon of the evaluation. The output of hospital services, for example, could be defined on the basis of direct treatments (medical “acts”) or on the basis of the medium-term improvement in patients’ state of health (Gadrey, 1996). The same is true of the outputs of educational establishments, consultancy services, etc.

In the provision of technical capacities rationale, the output is often represented in terms of time units that vary in accordance with the mode of use (duration of call in the case of telephone systems, number of nights in the hotel trade, number of days’ hire for rental cars, minutes of access to databases, etc.). However, other conventions and contracts are possible, although duration of use is almost always a key element. Finally, in the “entertainment” or “performance” rationale, the outputs and the units of output are usually pre-packaged sequences of performances, although there are different conventions for taking account of audience size when evaluating the output.

Without examining this point in any great detail, it is interesting to note that “Baumol’s law” on the cost disease that afflicts certain services applies in particular, in the famous illustrations provided by the author, to the live performance rationale as well as to the most interactive or relational variants of the assistance rationale, but that it does not apply at all to the provision of technical capacities rationale. Moreover, activities falling within the scope of this last rationale have seen considerable productivity gains over the past thirty years, comparable with or greater than those seen in manufacturing industry.

Similarly, the fact of belonging predominantly to one or other of the three rationales can influence the spatial distribution of the activity in question. When Hill offers a convincing analysis of the constraints on the location and spatial deconcentration of car repair activities, he is arguing within the framework of the repair or intervention model, in which services have to be organized in accordance with the “pattern of ownership” of the realities in need of “repair” (people or goods). Services based on the provision of technical capacities are sometimes more easily able to escape these proximity constraints. To be persuaded of this, it is enough simply to take the examples of telecommunications, television and electronic databases. In other cases, (car hire, large retail outlets, launderettes, . . .), the technical capacity must also be available close to users. For its part, the live performance rationale remains characterized by the simultaneity and spatial proximity of production and consumption. Broadcast performances depart from this rationale to move closer to one based on access to broadcasting

capacities, although those capacities are sustained by programming activity. The situation is, therefore, a hybrid one.

Finally, it is worthwhile making a distinction between these three rationales for the purpose of analysing international (or inter-regional) trade in services. When Hill states that it is not possible to produce services in one country and *then* export them to another country, which is generally possible with goods, he is often right in the case of the local repair or live performance rationales, but he is wrong in the case of a whole series of services based on access to technical capacities: telecommunications, television, information and reservations, and, increasingly, banking and financial services, electricity distribution, even air transport. In such cases, service provision is synonymous with the proper functioning of an accessible technical system; *to a large extent*, such functioning can be ensured without regard for the customer proximity constraint, once the customer is connected to the system. This is all the more true when the connection can be made at the ends of deconcentrated technical networks: cables, radio telephony, electricity or telephone lines, water supply systems, etc.

CONCLUSION

This article aims at a better understanding of the social and institutional embeddedness of the conceptual distinction between goods and services. Unfortunately, such a view does not provide simple and definitive answers to the issue of designing adequate product and industry classifications. As one of the referees of this article put it—I take the liberty of quoting his comments—it is unlikely that one can ever arrive “at a definitive and fully acceptable distinction between goods and services.” On the contrary, it is likely that (evolving) shared conventions could firmly define certain products as goods, other as services, with still “others which are in a border region” and which requires “more or less arbitrary conventions . . . Users must therefore understand what one can clearly distinguish here, and what remains ambiguous and is likely to continue so.” The main function of this paper is to reduce the size of the border zone and the arbitrary character of the solutions, by a contribution to the design of the conventions. The conceptual distinction between goods and services refers to “ideal types,” and, as such, it is likely to last as an essential scientific tool, provided that it is periodically revisited to take account of the new economic realities.

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