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Where does the money go? An analysis of the container metaphor in economics: The market and the economy

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Abstract

There is a crucial difference in the way economists and linguists approach metaphor in economics, the former being mostly interested in the representation of knowledge in the discipline, while the latter more concerned with the discursive and communicative context in which metaphors are used. The present paper attempts to bring together the two perspectives to analyze the CONTAINER metaphor in economics textbooks. Thus, the identification and analysis of highly metaphorical terms of the discipline will serve to determine the conceptual areas in which metaphor plays an important role, whereas a textual analysis will demonstrate how this metaphorical content is laid out for novice readers in the discourse of the introductory textbook. This article suggests that the CONTAINER metaphor is a rhetorical device, like the passive voice or hypotheticality, used to convey the idea of depersonalization and objectification.
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1. Introduction

Metaphor in economics has received attention both from economists and from applied linguists. The focus of the first is in explicating what have been identified as 'theory-constructive' metaphors or overarching metaphoric themes in economics (e.g. McCloskey, 1985, 1994; Henderson, 1994, 2000; Mirowski, 1989). The second approach favours a more linguistic, discursive analysis of economics texts, revealing the metaphoric expressions found in economics texts, their typical distribution and their communicative function (Skorczynska and Deignan, 2006). While these two approaches appear to complement each other and, taken in conjunction, might seem to provide between them a full account of the role and function of metaphor in economics discourse, the differences in the aims and methodology of each leads to what I will argue is an unsatisfactory and incomplete account. On the one hand, in their search to identify those overarching metaphors that inform economists' understanding of their field, scholars concerned with theory construction may fail to notice other, less obviously 'figurative', metaphors pervading the discourse of economics. On the other hand, applied cognitive linguists adopting a 'processing' approach have often chosen to analyze texts which can hardly be said to be representative of discourse of economists themselves, choosing to study journalistic texts from *The Economist* or *The Financial Times*. These texts, aimed at general audiences, may employ the same or similar metaphorical expressions as texts aimed at experts in the field, but there will be important differences in the

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discourse within which they are embedded, and generalisations about their communicative function can only be made in relation to this type of texts—and thus may tell us more about metaphor in journalism rather than metaphor in economics.

In this article my aim is to explore a metaphor that is employed in everyday contexts – the CONTAINER metaphor – as it is used by economists in their specialised discourse. In order to explore its linguistic manifestations, I have chosen as my corpus a number of textbooks aimed at novices in the field. As these textbooks serve as introductory readers for undergraduate students, these texts display many of the features proper to the discourse of specialists in economics, for the disciplinary enculturation of the novice involves introduction not only to concepts such as the Circular Flow model but also to how these may be expressed appropriately. My exploration of the CONTAINER metaphor reveals the extent to which economics discourse is reliant on metaphorical models originating not so much in specialised economic thinking but in the analogies of everyday thought. At the same time, it aims to show that important characteristics of economics discourse generally – namely, depersonalization and hypotheticality – should be taken into account when considering the communicative function of this metaphor in the particular discourse context in which it occurs.

2. Metaphor in economics

2.1. Approaches to metaphors in economics

Unlike most other disciplinary discourses, economics has given rise to a vast literature on metaphor elaborated by economists themselves (MacCloskey, 1985, 1994; Henderson, 1994, 2000; Mirowski, 1989). This work has a rather different focus from the work carried out by linguists even if it has some influence on this field. The best way to describe the difference between these two approaches would be to state that economists and linguists are operating at different levels of analysis, which are close to the ones proposed by Cameron (2003). Thus, economists will be mainly functioning at the 'theory level', or 'theory constructive level' (Boyd, 1993; Knudsen, 2003) of analysis, i.e. they will be more concerned with the epistemology of the discipline – many introductory books include a reference to metaphor in the chapter devoted to methodological issues – and with the importance of metaphor in the generation of knowledge and systematic abstractions. In contrast, applied linguists will mostly working at the ''processing level'', in which the focus is on the generation of discourse and on the purposes and functions fulfilled by metaphors in economic texts.

2.1.1. Theory-constructive level

At the 'theory-constructive' level of analysis, metaphor is understood in terms of what Henderson calls 'extended use of metaphor' or 'root metaphors', which he explains in the following way:

> ''A root metaphor provides a sustained basis for the organization of discussion of a topic, for the selection of terms that are used to discuss the topic and for the selection of any subsidiary metaphor that are likely to be applied to the topic'' (Henderson, 1994: 356)

This means that studying metaphor at this level requires some knowledge of a subject matter outside the normal experience of linguists:

> ''The overarching metaphor in terms of the formal economics discourse may be somewhat remote from the technical term [. . .]. Formal economics discourse is theory laden and the implications and linkages happen over longer stretches of text'' (Henderson, 2000: 172)

In fact, the most important metaphors in economics emerge from the sedimentation of economic thinking through history rather than from specific circumscribed instances of discourse. Thus, as Henderson himself argues, three labels could be used to describe the most important metaphors used in economics at present: 'mechanistic', 'auction' and 'biological' (Henderson, 2000: 168). It is important to bear in mind that the way in which these metaphors are to be understood is less in terms of language than in terms of different approaches or even methodologies of economic analysis.

Of the three approaches, the mechanistic model is undoubtedly the one that still bears the greatest significance in economics, especially if we consider it from the perspective of introductory textbooks, which by nature tend to give a more conservative and solidified version of the discipline (Mirowski, 1989).

The mechanistic model has also given rise to the most important metaphors used at a lower level of abstraction in economics. These metaphors, which some economists call models, constitute the backbone of the mechanistic approach and provide their methodological basis. Bradford DeLong (1999: 6), an economist, argues that in macroeconomics the most important metaphors fall into four classes: (1) hydraulic metaphors, mainly related to the model of the circular flow; (2) the market, which describes the different 'processes of exchange'; (3) the concept of equilibrium; and (4) the use of graphs to stand for algebraic equations.

Even so, these models cannot be considered as metaphors in the normal linguistic sense of the term. Rather, using Henderson's terminology in the quotation above (1994), we should consider them as subsidiary metaphors functioning as 'extended metaphors' or models in so far as they provide a theoretical interpretation or approach to relevant economic issues within the framework provided by the mechanistic approach to economics.

However, the metaphors analyzed at this level clearly do have a linguistic impact which would necessarily be present at the processing level of analysis, but which is readily apparent at the interface of the two levels, i.e. in the specialized terminology that has originated from these models. There are terminological chains that are clearly linked to these models. Henderson (1994), for example, has pointed out the existence of 'watery metaphors' in relation to the model of the Circular Flow (*liquidity, floating exchange rates, flotations, flows, circulation, leakages, injections, trickle down effects, sunk costs*...) and a similar metaphorical chain could be identified in relation to the equilibrium model (*market forces, equilibrium, impact, shocks, elasticity, balance, levels, gravitation of prices, velocity of money, the accelerator, expansion, inflation*...).

In this respect, we could conclude that economists mostly adopt a top-down approach to metaphor, an approach that is tightly grounded in knowledge or cognition and that is mainly concerned with the heuristic process of the creation and elaboration of new ideas in the field. However, except for the metaphorical chains discussed above, this approach is based on a comprehension of metaphor which does not exactly correspond to a linguist's understanding.

2.1.2. *Processing level*

Metaphors at the processing level have a much lower degree of abstraction and narrower scope than 'root metaphors'. This phenomenon has given rise to greater attention to the communicative situation, the social and textual context in which metaphors appear. This is the realm of the linguist and the discourse analyst.

One exponent of this metaphoric level would be what Henderson (1982) describes as ''textual decoration'', that is, the use of metaphor as ''a teaching device, to illustrate or exemplify'' (1982: 147). Skorczynska and Deignan (2006) have labelled this use as ''illustrating'' and have shown that, although less frequent than in other genres, it can still be found in research articles of the discipline.

The most important task carried out by linguists at this level has been the identification of the most important conceptual metaphors. Table 1 summarizes them. However, it should be pointed out that most of these metaphorical models have been identified within the scope of economic discourse at large, the majority of corpora used being of a journalistic nature. It then remains to be ascertained whether the metaphors already identified are also functional in the academic discipline.

My impression, corroborated by the few authors specifically dealing with 'economics metaphors' (Henderson, 1982; Resche, 2001; Skorczynska and Deignan, 2006), is that there is an apparent correspondence and that the most important 'root metaphors', the mechanistic and biological models, hold an obvious relationship to the two most relevant conceptual metaphors, THE ECONOMY IS A MACHINE and THE ECONOMY IS AN ORGANISM.

This correspondence would point to a certain way of speaking economically that will cut across different registers and that will probably be the result of the extension of the basic metaphors of the discipline onto the other registers and genres dealing with economic issues. General language would have imported the metaphorical models that the discipline has generated. In a recent article, Knudsen (2003) claims that neither 'theory-constructive' and pedagogical metaphors (or 'illustrating metaphors' in our case) correspond to different groups of metaphors but to the same metaphors used in different contexts or genres.

However, it is very important to note that the conceptual metaphors used in economics are not restricted to those generated by 'root metaphors' and that it is precisely the job of the linguist to identify what metaphoric models economists use, perhaps unconsciously or inherited from general language. In other words, a bottom-up approach can show to what extent economics discourse is reliant on metaphorical models originating not so much in specialised economic thinking but in the analogies of everyday language.

Table 1
Metaphor in economic texts.

Conceptual metaphor	Authors	Examples
THE ECONOMY IS A MACHINE	Boers (2000a); Resche (2002); Skorczynska and Deignan (2006); Boers and Demecheleer (1997); White (2003)	Fine-tuning, fine-tuning economic growth, macroeconomic tools, economic levers, tighten the screws on the economy, overheating, market mechanisms, the economy is sputtering, exchange rate mechanisms, financial instrument/accelerator, bottle up, brake, engine, flow, fuel, machine, pump, safety valve
THE ECONOMY IS A LIVING ORGANISM	Charteris-Black (2000); Resche (2002); Boers and Demecheleer (1997); Boers (2000b); López Maestre (2000); White (2003)	Economic growth, healthy economy, breakdown, economic disease, economic cure, economic depression, infant industry, economic decay, giant, player, parent company, sister company, raider, white knight, chances of survival, economic viability, chronic budget deficit, economic paralysis, economic symptoms, economic sclerosis, arthritic labour markets, financial hypochondria, acute shortage, anaemic industries, amputations of departments, economic recoveries, growth revives, growth breaks out
BUSINESS IS WAR/TRADE IS WAR	Boers and Demecheleer (1997); Boers (2000a); López Maestre (2000); Charteris-Black and Ennis (2001); Eubanks (1999)	Economic arm-twisting, the fight for the market share, combat fraud, take-over battle, retaliation against US exports, invading new markets, conquering the market, breaking ranks with one's associates, trade war, trading truce, price war, market retreats, UK shares hit by US slump, trade peace, rally, trigger, attack, batter, wipe out, retreat, impact, battle, assault
BUSINESS IS A JOURNEY/THE PATH METAPHOR	Boers and Demecheleer (1997); López Maestre (2000); Eubanks (1999)	Move toward privatisation, the economy has shifted, turning point, sense of direction, monetary course, stay the course, economic fast track, ITT's drive at British car components, fast-moving companies, (company) leads the move, (equity) advance, free rider, bump, derail

2.2. *Economic or economics metaphors?*

The mismatch of the two approaches to metaphor is, as we have seen, the consequence of the different perspectives adopted and of the goals pursued by economists on the one hand and linguists on the other. But this disparity can better be explained, in strict linguistic terms, by distinctly identifying the register each of these groups focuses on.

This identification of register is particularly relevant here since the subject matter, 'economic issues', is dealt with by different discursive practices and also at different levels of specialisation. Bondi puts it this way:

> "There will be a need to distinguish the definition of discourse in a wider or in a stricter sense. We could thus identify the wider discourse area simply in terms of the kind of knowledge involved, or of the sphere of human activity, but the field would be identified in terms of a specific social activity. The widest perspective – which might be referred to as the study of economic discourse – will be based on the link between discourse and the whole area of human activity that has something to do with the issues studied by economics. A more specific way of looking at economic discourse will require the reference to the ongoing social activity: for example distinguishing the discourse of economic transactions from the discourse of economics as a discipline" (Bondi, 1999: 30)

This means that related discourse domains falling under the wider interpretation (e.g., Business discourse, St John, 1996; Management discourse, Fox, 1999, or economic journalism) will not be considered in the present article, while, I will clearly focus on the narrow discursive context, economics discourse, whose main features have already been spelled out.

Some of these features include the use of conditionals, the alternation between count and non-count uses of the same noun (e.g. *equilibrium*) or the occasional use of 'soft' examples and literary flourish (Swales, 1993; Bondi, 1999). But more importantly, the register of economics in general and the economics textbook in particular can be characterized, using the title of a seminal paper (Mason, 1990), as 'dancing on air' for its marked preference for abstraction. In particular, this rhetorical effect is achieved by the massive use of the following linguistic features: (a) the nominalization of economic acts and the loss of agency (Mason, 1990; Hewings, 1990) and (b) the use of hypotheticality (Tadros, 1985; Bondi, 1999).

It is not difficult to notice from the previous account that some of these features clearly correspond to some of the most prominent linguistic resources posited as defining 'scientific discourse'—namely nominalization (Halliday and Martin, 1993) and passivization (Tarone et al., 1981, 1998; Atkinson, 1999). This is not mere coincidence. These resources have been claimed to be the preferred linguistic means in order to clarify two distinct rhetorical goals of modern science, objectification and depersonalization (Massoud and Kuipers, 2008), are achieved. In a positivist view of science, the focus of attention lies not in the process or the participants but in the object of the research. And indeed mainstream economics claims to belong to this tradition and the economics textbook, as is also the case in the 'hard' sciences, is clearly *the* genre where this ascription to the hard sciences is more explicitly presented and defended (Klamer, 1990).

3. Methodology

3.1. Definition of metaphor

As already stated, the present article draws on a concept of metaphor which is reliant on cognitive tenets while at the same time acknowledging the importance of linguistic form. Thus I will be drawing on a definition of metaphor as developed in Conceptual Metaphor Theory (CMT, Lakoff and Jonhnson, 1980; Jonhnson, 1987), which establishes that a mapping between different conceptual domains or structures is the basis for metaphor building in language, where some sort of non-literal or indirect meaning is found to be deviating from a literal or basic meaning (cf. Steen, 2007). At the same time, I will operationalize this definition by drawing on more applied approaches to metaphor (Caballero, 2003, Steen, 2007), where metaphor is seen as ''the implicit or explicit co-presence of two conceptual domains in one stretch of discourse'' (Steen, 2007: 279).

3.2. Procedure

The present article follows what Steen (2007) has called a deductive approach to the study of metaphor, in line with some other works like Koller (2004), Koller and Davidson (2008) or Chilton (1996). As consequence, I first try and establish the existence and implications of the CONTAINER metaphor in economic thinking and then I will analyze how it is used in the specific register of economics textbooks.

The choice of texts to analyze was considered to be of the greatest importance as I intended to tackle two of the main problems arising in the work of applied linguists when dealing with metaphor in economic language:

1) The almost exclusive use of journalistic corpora (e.g. *The Economist*, *The Times*, etc.) as the source to study conceptual metaphors. As has been pointed out by Henderson (2000), these sources may share 'a family resemblance', but cannot be said to be good representatives of economics discourse.
2) The difficulty in deciding on the basis of the text alone whether a metaphor is 'theory-constructive', and therefore central to economics as a discipline as different from the other types of metaphors identified, i.e. 'didactic' which are used to explain or illustrate ideas within the text (cf. Knudsen, 2003), and 'general purpose metaphors', both of which may be said to play a secondary role in the description of the register we are dealing with. Cases of ambiguity may arise quite frequently and considerable degree of specialist knowledge may also be necessary. It is no surprise then that some of the literature (e.g. Skorczynska and Deignan, 2006) has resorted to external sources like specialised dictionaries or discipline specialists in order to be able to tell these different groups apart.

To overcome some of these difficulties and to meet the requirements of an investigation, which is focused not on the identification of as many conceptual metaphors that can be found in the discourse of economics but on the recognition of one of them, the CONTAINER metaphor, I used a mostly qualitative approach. More specifically, I followed these steps:

1) First, I manually looked for linguistic expressions of the CONTAINER metaphor in economic terminology by going through a specialist dictionary as well as glossaries and conceptual indices included introductory economics textbooks (see Appendix A for a list of the works used) as a way of finding those metaphors which are in fact the conventionalisation of some knowledge which is considered valuable by the discipline.
2) Next, I also looked, manually, for linguistic expressions of the CONTAINER metaphor in those chapters of introductory economics textbooks where the specialised economic terms were dealt with. Thus the CONTAINER

metaphor could be analyzed in the context of discourse where the expert is more likely to 'open' or 'bring to life' the conventional terminological meaning by explaining it to the novice.

3) Finally, I compiled a small corpus with the first chapters (1–6) of two of the most relevant textbooks (Samuelson and Nordhaus, 2005; Mankiw, 2004, see Appendix A). These chapters are the ones where a greater rhetorical effort is made and correspond to the subject matter that my previous manual analyses (steps 1 and 2) had demonstrated to be relevant for the CONTAINER metaphor. The corpus, made up of nearly 100,000 words (99,510), was analyzed using WordSmith Tools by looking at concordances of likely linguistic manifestations of the CONTAINER metaphor: outsid*/insid*; external*/internal*; out*; out of/in. These instances retrieved were then 'cleaned' manually to get rid of non-metaphoric instances and only used them to provide examples of the collocations of the 'containers' analyzed in the article.

4. The container metaphor in economics

According to CMT (Lakoff and Jonhnson, 1980; Jonhnson, 1987), the CONTAINER metaphor belongs to that group of metaphors mapping an image schema, or basic sensoriomotor experience, onto the way we reason and structure the world around us. It therefore relates to one of the basic experiences of our life (e.g. our bodies as containers where food and water go in, cf. Jonhnson, 1987: 21) and is linked to another image schema, SURFACE, together with which they form the more inclusive schema of BOUNDED REGION (Peña, 2008).

The CONTAINER metaphor has already been shown to play a role in other disciplines. For example, Lakoff and Núñez (1998) draw heavily on it in their description of mathematical functions. In the same way, it has been shown to play an important part in political discourse (Chilton, 1996; Koller and Davidson, 2008). However, as shown by Grady (1998) for the CONDUIT metaphor, the CONTAINER metaphor may sometimes go unnoticed because of its patterning together with other metaphors. This difficulty in noticing its presence may therefore be attributed, on the one hand, to its status as a primary metaphor (Grady, 1997), where the domains being mapped are closer to each other, and on the other to the fact that it is embedded in more complex and intricate metaphors, devoid of richer detail. In economics, for example, the CONTAINER metaphor could be considered as integrating ECONOMIC SYSTEMS ARE HYDRAULIC SYSTEMS, as we will see later on.

The relevance of the CONTAINER metaphor in the context of economics textbooks is linked to some of its features as a primary metaphor.

1) Its perceptual base and schematic nature makes it a good candidate for universal metaphorical models, which tend to be preferred by scientific discourses aiming for widespread acceptance beyond culturally shaped models (Koller and Davidson, 2008). In fact, as we will see later in the article different metaphorically rich models have been proposed to explain the ECONOMY IS A CONTAINER and they seem to be compatible within the same mechanistic framework. It is not accidental that containers are also a good source to map cognition and conceptualization (as for example in COGNITIVE REPRESENTATIONS ARE CONTAINERS, cf. Evans and Green, 2006: 303). To put it in other words, they are suitable to make the leap to abstraction—or using a metaphor we have seen before, to be able to 'dance on air' (Mason, 1990), which is so dear to economics discourse.
2) Its topological structure, which means that its component elements can be made bigger or smaller while their relationship remains the same, can be used to simplify or, by contrast, to elaborate on some of the economic models used. This is particularly pertinent in the introductory economics textbook where some very simplified models are presented at the beginning, for example when presenting a simplified model of the Circular Flow of Income, and are later presented in their full complexity, for example when all the sectors involved are included to make National Accounting.
3) Its spatial nature allows both for its easy integration with another spatial image schema, the SOURCE-PATH-GOAL, where the source or the goal slots can be filled in by a CONTAINER. In economic registers, the former primary schema has been shown to be certainly relevant (Henderson, 1994; Liebert, 1995; O'Connor, 1998; Vercruysse, 1995) and the latter seems be its natural complementation.

It is not surprising, therefore, that its structural and inferential properties make the CONTAINER metaphor an appropriate means to adequately map important target domains in economic thought. To give but one example, which will not be dealt with in this article, the CONTAINER metaphor can find a more localized realization in the A COMPANY IS A

CONTAINER metaphor. As shown by some economic terms (e.g., *external audit, outside bidder, outsourcing, input/output, fringe firms, backdoor financing, walk out, contract out, outplacement*), the physical and perceptual manifestation of companies in buildings enables the correlational experience expressed in economic language.

However, in the present article I intend to go a step further. I will not only claim that in two of the most important domains in economics, the market and the economy, we can find, entrenched, a CONTAINER metaphor, which is present in its most conventionalized language, its terminology, and which, as we have seen, is valuable from a cognitive perspective, but I also argue that the metaphor can be found in the less conventionalized language, where it is used to open the metaphor for novices. The importance of this process lies in that both these domains (Bradford DeLong, 1999) are key to the mechanistic understanding of the economy and in that the CONTAINER metaphor facilitates such mechanistic comprehension.

In this mechanistic way of understanding the economy, the CONTAINER metaphor helps to remove human actors from the scene, to profile them not as active agents, but as mere receptacles of economic exchanges. This means that, at the level of discourse, this metaphor is added to other linguistic resources such as the personification of abstract concepts like 'demand' or the intensive use of the passive voice and intransitive verbs, which facilitate the ''removal of human actors'' from the discourse (cf. Mason, 1990, McCloskey, 1985).

More importantly, perhaps, the metaphor aids in the process of objectification of economic activities by providing support to what is considered the central metaphor in mainstream economics, i.e. the reduction of value ''to a conserved substance in motion'' (Mirowski, 1989: 186). This substance in motion not only moves 'out of' and 'into' economic containers but 'within' the limits of the market and economic systems, which are thus treated in the same way as discrete entities in nature (Massoud and Kuipers, 2008). As a consequence, economics achieves one of its most cherished goals, i.e. to be considered at the same level as the rest of natural sciences.

5. The market as a container

5.1. Conventionalized metaphoric themes: economic terms

The first manifestation of the MARKET IS A CONTAINER metaphors can be found at the level of terminology, where we can find the following terms with a clear metaphorical reference:

- **Barriers to entry**: ''Factors that impede **entry into a market** and thereby reduce the amount of competition or the number of producers in an industry'' (Samuelson and Nordhaus, 2005: 732)
- **Externalities/spillover effects**: ''*Externalities* (or spillover effects) occur when firms or people impose cost or benefits on others **outside the market place**'' (Samuelson and Nordhaus, 2005: 36)
- **Open market**: ''The Fed creates dollars and uses them to buy government bonds from the public **in the nation's bond market**'' (Mankiw, 2003: 227)
- **Market clearing**: ''The equilibrium price is also called the *market-clearing price*. This denotes that all supply and demand orders filled, the books are **"cleared" of orders**, and demanders and suppliers are satisfied'' (Samuelson and Nordhaus, 2005: 54) (My emphasis[1])

As can be seen, it is not only that the terms have elements which clearly indicate the existence of a CONTAINER (*entry, externalities, open, clearing*). The definitions, where we find elements (underlined), also make this metaphor explicit. In this sense, I cannot agree with Henderson's view that a metaphor like *barriers to entry* has no predictive power, or in words closer to the present article, has no 'theory-constructive' value. This might be true if the metaphor is considered in isolation, but not as part of a system of metaphors where what is at stake is what Henderson himself calls 'entry' and 'exit conditions' that define the mechanistic model (1994: 360).

5.2. Linguistic features

However, this general image of the market as a container is not restricted to economics terminology and to the language of definitions. Generally speaking the language of economics textbooks can be said to be tinged with container metaphors. This can be seen in the following linguistic features:

[1] From now on, the emphases found in the examples (bold face and underlining) are all mine.

1. The word *marketplace*, with of its specific connotations of a reference to a specific place, is frequently used in introductory textbooks as a substitute for the word market. See, for example the following concordances taken from the first two chapters of Samuelson and Nordhaus (2005):

```
 Create an ever-more-competitive global marketplace. Developing countries like
costs or benefits on others outside the marketplace.  Governments are generall
tic market economics.  The Intellectual Marketplace  just what is the market t
 engage in face-to-face bargaining. The marketplace-filled with slabs of butte
ply and demand, go I."  Monarchs of the Marketplace  Who rules a market econom
s over its traditional territory of the marketplace, but it also covers the en
w benefits that are not paid for in the marketplace. Governments may decide to
y has helped or hurt people outside the marketplace; that is, there was an eco
d luck, and skills highly prized in the marketplace. Those with low incomes ar
onder why some technologies fail in the marketplace. From the Stanley Steamer-
spillovers or externalities outside the marketplace-positive externalities suc
ns in the United States are made in the marketplace. But the government plays
nd determine them.      There is also a marketplace of ideas, where contending
```

2. The preference of economics discourse for the use of the preposition 'in' to accompany the word market as opposed to the alternation with the preposition 'on' or 'at' that is typical of general language. In the corpus analyzed here, 'in' collocates to the left of 'market' five times more often than with 'on', whereas in the BNC the proportion is only two to one.

```
the total revenue in this market. In Figure 5-2, where P $4 and Q
f the actual price in this market were above the equilibrium price
price and quantity in this market? If the actual price in this mar
ctivity takes place in the market. Examples of augmented accounts
t all. This example in the market for ice cream shows a general re
es, the equilibrium in the market changes. The analysis of such a
he equilibrium wage in the market for unskilled labor. Using a sup
e quantity demanded in the market would be higher at every price.)
drugs. What happens in the market for illegal drugs? As is usual,
and firms interact in the markets for goods and services (where h
ms are sellers) and in the markets for the factors of production (
o types of markets. In the markets for goods and services, househo
```

3. The verbs that usually collocate with market also profile a container: enter/go to/clear/have/contain/there is-are. See some examples with enter and clear:

```
in part because new producers enter the market at the higher price (area
BCED. Second, some new sellers enter the market because they are now wi
BCED. Second, some new buyers enter the market because they are now wi
in part because new consumers enter the market at the lower price (area
ones. In addition, new firms can enter a market, and old firms can shut
quantity of sales that will clear the market, that is, the equilib-
Say we try $2. Does that price clear the market? A quick look at row D s
```

5.3. Lack of awareness and rhetorical inadequacies

Both the terminological definitions and linguistic features described above show that there is ground for positing the container metaphor in economics. However, the analysis carried out so far does not indicate to what extent those using the metaphor are really aware of it. Obviously, by awareness I am not referring to an explicit recognition of the CONTAINER metaphor, something not to be expected unless you have a certain familiarity with cognitive linguistics. What I am referring to is a lack of recognition of the market as a metaphorical target on which some of the expressions in economics language are based. As we shall see, this can lead to certain rhetorical problems.

The first of these problems can be found in the following example:

> ''A market is an arrangement that allows buyers and sellers to exchange things, trading what they have for what they want'' (O'Sullivan and Sheffrin, 2001: 23)

The problems derives from the fact that to define a complex and abstract word like 'market', the authors resort to another word, 'arrangement', whose indeterminacy makes things still more complicated to the novice reader who is trying to get to grips with it.

Now compare this definition to the following one:

> ''Originally, a market was an actual **place** where buyers and sellers could engage in face-to-face bargaining. The **marketplace-filled** with slabs of butter, pyramids of cheese, layers of wet fish, and heaps …. In the United States today there are still important markets **where** many traders gather together to do business.
>
> …
>
> In a general sense, markets are **places** where buyers and sellers interact, exchange goods and services, and determine prices. …
>
> *A market **is a mechanism through which** buyers and sellers interact to determine prices and exchange goods and services.*'' (Samuelson and Nordhaus, 2005: 26)

In this case, the hyperonym employed to introduce the definition, 'mechanism', is itself a metaphor and is cleverly inserted in a rhetorical structure where the authors make explicit how the idea of the market as a mechanism is to be related to the idea of the market as a place, a relationship will be reiterated on other cases. In other words, the authors have clearly taken up the task of explaining the concept of the market by clearly 'opening' its metaphorical meaning to novice readers. And what better an idea could there be than narrating what is probably the origin of a metaphor in such a way that it has an immediacy and is related to our everyday life experiences?

The secret of the success of this last definition lies in that it manages to guide the reader through the most important steps in the meaning of the term 'market' in economics. This is a summary of those changes (cf. also Eubanks, 2000):

1. The word market is first used metonymically in everyday language: the name of the place is used to refer to the activities carried out in that place.
2. Then economists extended its meaning to the activities that one would expect to be carried out in that place but which are not performed there any more because the Internet and other exchange mechanisms are used instead.
3. Finally, the word market is further abstracted by its frequent use accompanied by the article, 'the market', to refer to all possible transactions in all possible markets and by extension to the economic system which uses it as the main mechanism for the allocation of resources.

The second rhetorical problem identified is perhaps more serious. In this case, the lack of understanding of the container metaphor causes not merely a certain clumsiness of expression, but also leads to conceptual vagueness. Here is the explanation that we refer to:

> ''The spillover principle suggests that the costs or benefits of some decisions **'spill over'** onto people who are not involved in making the decisions. A spillover occurs when people who are **external** to a decision are affected by the decision. Another word for spillover is externality.'' (O'Sullivan and Sheffrin, 2001: 33)

As can be seen, the authors are aware of the metaphor and mark it in the discourse by the use of inverted commas ('spill over') and by providing a more transparent equivalent, *external*. However, they misidentify the metaphoric target. The benefits or costs of the decision do not 'spill over' onto other people but onto agents and factors not implied in the market. The reasoning is simple: my decision to buy a product increases the demand for this product and may therefore raise its price. This effect is not, however, an *externality* because it forms part of the 'market mechanism'. So an externality is not a personal decision affecting other people. In other words, the container for externalities is not 'the person' buying a product but the 'market place'. Samuelson and Nordhaus make it crystal clear in the following extract:

> ''A second failure of the 'invisible hand' comes when there are spillovers or externalities **outside the marketplace**—positive externalities such as scientific discoveries and negative spillovers such as pollution'' (2005: 30)

In short, the CONTAINER metaphor has been shown to play an important role not only at the level of terminology where certain terminological expressions in economics are clearly explained by it but also at the discursive level where those authors who are aware of it are able to 'open' its meaning for novice readers thereby enhancing the comprehension of the concept.

6. The economy as a container

6.1. Conventionalized metaphoric themes: economic terms

At the terminological level, evidence of the economy as a container can be mostly found in three main groups of metaphors. The first is related to what Henderson (1994, 2000) calls 'watery metaphors'; the second makes reference to a conceptualisation of the economy as a very abstract container in line for example with the one profiled by the CONDUIT metaphor with language; and the third and final group is closely related with the nation as a CONTAINER.

As evoked by the name, 'watery metaphors' here map a relationship with water as its source domain, but their inclusion in this list is due to the fact that they also profile a container within which water is assumed to flow. These are the terms:

Leakages: ''withdrawals (*MacMillan Dictionary of Modern Economics*, 458)
Injections: ''Income earned by domestic firms that does not arise **out of** the spending of domestic households and income earned by domestic households that does not arise **out of** the spending of domestic firms'' (Lipsey et al., 1990: 963)
Injections: ''An **exogenous** addition to the income of firms or households'' (*MacMillan Dictionary of Modern Economics*, 204)
Sunk cost: ''The cost a firm has already paid or has agreed to pay some time in the future'' (O'Sullivan and Sheffrin, 2001: G-10)

There is an additional term, which does not explicitly refer to 'water', but which maps some of the properties that can be attributed to it, in this case movement. The explanation is simple. If money can be equated with a 'flow' within the economy, the speed with which this flow moves is its 'velocity'.

Velocity of money: ''Velocity is the rate at which money circulates **through the economy**. The income velocity of money is measured as the ratio of nominal GDP to the stock of money'' (Samuelson and Nordhaus, 2005: 695).

The second group of terms does not map any specific container but at the same time it can be considered to be more explicit in the actual wording of the terms and of the definitions providing even more clues as to their metaphoric nature.

Exogenous variables: ''Exogenous variables are those determined by the conditions **outside the economy**. They are contrasted with induced variables, which are determined by the internal workings of the economic system'' (Samuelson and Nordhaus, 2005: 738)
Outside money: ''Money which is backed by assets which are not debts, in that the assets do not represent a claim on individuals **within the economy**'' (MacMillan Dictionary of Economics)
Open economy: ''An economy in which people can freely engage in international trade in goods and capital'' (Mankiw, 2003: 533).

In the third group, the linguistic traces of the metaphor are somewhat less obvious, but a simple etymological analysis of their Latin origins brings out to life the metaphorical mappings. This is the case of 'Exports and Imports' and of the expression 'External Trade', both of which have also current use in general language and are likely to pose few problems to the reader since they rely on a related metaphor, NATIONS ARE CONTAINERS.

6.2. Linguistic features

From a linguistic point view, there are also signs of the conceptualisation of the economy as a CONTAINER, most importantly through the repeated use of the preposition 'in' accompanying the noun 'economy'. Here is the example of the concordances found in only the first chapter of an introductory book (Mankiw, 2007):

1. :

Smith is saying that participants	**in the economy** are motivated by
that the Japanese are our competitors	**in the world economy**
So in a sense, each family	**in the economy** is competing with
are as much our partners	**in the world economy** as they
etermine the allocation of scarce resources	**in the economy**.
to develop market economies	**In a market economy**, the
description of how people interact	**in a market economy**
Smith is saying that participants	**in the economy** are motivated by
All other prices	**in the economy** rose by similar
increase in the overall level of prices	**in the economy**
Increasing the amount of money	**in the economy** stimulates the o

6.3. Rhetorical context

As anticipated by the terminological analysis, the economy is rhetorically constructed as a CONTAINER in one of the main contexts of the economics textbook and most influential models in the field: the Circular Flow. Its importance resides in that it is one of the earliest models of the discipline and in that it is used in macroeconomics to explain the equality of the different methods to calculate the Gross Domestic Product of a nation. Thus, using the analogy provided by the model textbook writers are able to show how the sum of incomes generated by an economy should be equal to its total expenditures.

The origins of the model date back to 18th century Physiocrats, who were concerned with explaining how the different groups participating in the economy – farmers, industrialists and traders – contributed to the production of wealth. It is important to note, however, that the analogy behind the model was that of the circulation of blood, something explained by Mirowski (1989) as a result of Quesnay's medical background. Initially then the model drew on an organic metaphor which compared the circulation of money in the economy to the circulation of blood in the body.

Later on, however, the model lost its organic connotations by focusing on the mechanics of circulation and eliminating the reference to the body or human blood. Economics had begun to establish itself as a discipline close to physics and therefore focused on the mechanical elements related to circulation. Such was the force of this trend that a machine was even built to represent in detail all the aspects implied by the model. Phillips, an economist from New Zealand, also known for his important contribution to a famous curve carrying his name, devised a highly complex mechanism which made use of coloured water, showed how a complex economy worked.

The history of the model then explains how two apparently conflicting metaphors, the organic and the mechanical, have coexisted in economic thought. In both cases, a container, whether the human body or a pipe system is considered to be the place where flows, money or goods, circulate. The notion of a container, so central to our everyday use of language (Jonhnson, 1987), also becomes central to the linking of the two central traditions of economic thinking:

> ''Most of our current notions of economic systems and the most appropriate models designed to represent these still rely on a combination of the 'organicist' and 'mechanical' notion of physics and biology that was current at the time when economics was first institutionalized'' (Mackintosh et al., 1996: 65)

It should be emphasized that it is the container metaphor, understood in its most schematic terms, which makes it possible to pass from one model to the other without major problems.

Within this context, textbook writers, who are all too aware of the history of the model, usually opt for the primarily mechanical explanation of the model in their discourse. Here are a couple of examples:

> ''Note that in discussing investment in Section 3.3 I referred to **a tank** or **reservoir**, with **taps into** it and a **drain out of** it that established the **flows**—a very homely analogy, you might think. That, of course, is the point. The description used a series of analogies and metaphors: ***flows*** (of a liquid) around an integrated ***system*** that involves something like a ***tank*** or a ***reservoir*** with a ***tap*** leading into it and a ***drain*** leading out of it (the terms italized being the analogies and the entire image being the metaphor'' (Mackintosh et al., 1996: 59)
>
> ''For obvious reasons, Fig. 1 is called a *circular flow diagram*. It depicts **a large tube** in which an imaginary **fluid** circulates in a clockwise direction. At several points along the way, some of the **fluid leaks out** or additional **fluid** is **injected** into the **tube**. Let's examine this **system**...'' (Baumol and Blinder, 2006: 531)

The student reading the text finds a whole array of metaphors that are intended to 'open up' the idea of the economy as a pipe system or as a water system. It is important to note that in both cases the circuit implied is referred to as a 'system' without further qualification. The reason seems to be in that the image of the economy as a container lies in the background and is derivable from the image of the flow. In other words, the flow metaphors are the figure and the container metaphors are the ground.

This is more evident still in other texts where no rich images are used to explain the model:

> ''The diagram [see Figure 1] describes all the transactions between households and firms **in a simple economy**. **In this economy**, households buy goods and services from firms; these expenditures **flow through** the markets for goods and services. The firms in turn use the money they receive from sales to pay workers' wages, landowners' rent, and firm owner's profit; this income **flows through** the market for the factors of production. **In this economy**, money **flows** from households to firms and then back to households'' (Mankiw, 2004: 93)

In other words, the container metaphor is present in economics textbooks but it is not used as a rich source of metaphoric imagery. In my view, the lack of attention to this rich container metaphor generated by the Circular Flow has mainly to do with the fact that its role is less ideational than rhetorical. In other words, it does not provide a description of the economy but a way of trying to understand it, as is described in the following account of the first flow models by Mirwoski: ''The economy was treated as a separate law-governed sphere, rooted in a metaphor of motion'' (1989: 149). From a rhetorical point view, the Circular Flow model, through the container metaphor, establishes the ground to talk about the economy as a self-contained entity.

7. Conclusion

To sum up, different conclusions have been reached in the analysis of the container metaphor in economics discourse. They are of different nature and therefore need to be considered separately.

From a methodological point of view, the article has shown that the presence of the metaphor is not restricted to the terminology of the field, which could be interpreted as declining vitality given the conventionalised nature of terms. It has also been found to be present in the discourse of economics textbooks, where the expert language user sometimes revives or reopens it for didactic purposes, and sometimes to give cohesion to the text. This shows that for a conceptual metaphor to be relevant in a particular specialised register, it has to cut across both the terminological and discursive levels since only by having achieved a presence in both can it be said to be productive at all the levels of language use (ideational, interpersonal and textual).

Secondly, the present article has shown how the container metaphor plays a relevant role in the language of economics since it is complementary to the some of the conceptual metaphors related the mechanistic models in economics (''a substance value in motion'' Mirowski, 1989), thus constituting together with it the essential core of the figurative language used in the social science.

Finally, from a discursive point of view, the metaphor helps to achieve the depersonalizing programme of the mechanistic paradigm in economics, which can be said to constitute the bulk of mainstream economics, by situating some of the participants in the economy as circumstances of the processes described by a language. In other words, the container metaphor makes it easier for the discourse of economics to disregard human agency by presenting 'economic

agents' (firms, individuals, households, governments, etc.) not as those who carry out the actions taking place in the economy but as the 'places' where those actions start from or reach.

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Appendix A. Corpus of economics textbooks used

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