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**What's in a Sign?
Trademark Law and Economic Theory**

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Abstract: The aim of this paper is to summarise the extant theory as it relates to the economics of trademark, and to give some suggestions for further research with reference to distinct streams of literature. The proposed line of study inevitably looks at the complex relationship between signs and economics.

Trademark is a sign introduced to remedy a market failure. It facilitates purchase decisions by indicating the provenance of the goods, so that consumers can identify specific quality attributes deriving from their own, or others', past experience. Trademark holders, on their part, have an incentive to invest in quality because they will be able to reap the benefits in terms of reputation.

In other words, trademark law becomes an economic device which, opportunely designed, can produce incentives for maximising market efficiency. This role must, of course, be recognised, as a vast body of literature has done, with its many positive economic consequences.

Nevertheless, trademark appears to have additional economic effects that should be properly recognized: it can determine the promotion of market power and the emergence of rent-seeking behaviours. It gives birth to an idiosyncratic economics of signs where very strong protection tends to be assured, even though the welfare effects are as yet poorly understood. In this domain much remains to be done and the challenge to researchers is open.

Keywords: trademark, brand, economics and signs, asymmetric information, intellectual property rights, law and economics

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1. Introduction

A sign is anything that stands for something else¹. Words, for example, are signs used to represent objects, experiences, states of mind and much more.

Human communities are loaded with signs, as are interactions between individuals. Signs are necessary instruments for social existence that perform a variety of functions. A sign is a container whose significance can be extended in different directions: it can have a literal meaning, that is to say a direct and straightforward interpretation, as well as a series of more complex and indirect complementary meanings which contribute in different ways to the communication process, broadening its scope. Religion provides an excellent example of this: the drawing of a fish, which has of course the direct and universal meaning of denoting an inhabitant of the sea, to followers of the Paleochristian religion also represents, by a complex association of ideas, a reference to God². A similar mechanism of indirect association occurs for the star (of David) which in the Hebraic religion identifies the religion itself.

Signs emerge from any process of interaction between individuals, including the specific case of economic interactions. In particular, we note how at a certain point in human history, signs began to be used in markets specifically to answer the needs of trade. This ushered in the era of the trademark, which from its gradual beginnings rapidly gained momentum with the industrial era, and is today crucial to the existence of a market economy as we know it.

A trademark is a sign used within economic activities by a producer or vendor to identify a particular product or service. In other words, it is a 'distinctive sign' that enables offerings of goods or services to be--more or less consistently--differentiated, and consequently enables consumers to distinguish between different goods and recognise their provenance. These attributes make trademark an extremely powerful economic device.

However, although the law and marketing literature devoted to the role of trademark law and the use of branding³ is fairly homogeneous and well-consolidated, the application of economic analysis to this same topic has instead been fragmentary, with different approaches leading to different results. There are in fact at least three distinct and poorly communicating lines of study that have

¹ This definition is widely accepted. See for example the dictionary section of MSN Encarta (http://encarta.msn.com/dictionary_1861735074/sign.html) which defines a sign as a 'thing representing something else' and then as 'something that indicates or expresses the existence of something else not immediately apparent'.

² The reference is based on the acrostic of the Greek word for fish 'ichtys' made up of the Greek initials of the phrase "Jesus Christ, God's Son, Saviour" (Anonymous, 1985). In the remainder of this document this type of situation shall be described, using the language of trademark, with the term 'secondary meaning'.

³ 'A brand is a trademark, or combination of trademarks, which through promotion and use has acquired significance over and above its functional role of distinguishing the goods or services concerned' (Blakett, 1998, p. 8). Branding is a practice that uses the information and attraction leverage created by the brand – the so-called 'brand equity' - to capture consumers (see Aaker, 1991 and 1996).

examined the role of trademark law from different economic perspectives. The first is the so-called law and economics perspective, under which trademark is viewed as a tool for pursuing efficiency. The second approach looks at the effects of trademark on market structure, focusing specifically on practices aimed at maximising the profits of the owners of the rights, that question, at least in part, the efficiency argument. Finally the third approach--as yet only roughly sketched out--attempts to examine trademark as an entity in its own right that can be treated as both an asset and a commodity.

The present contribution will undertake to summarise the existing literature, and suggest some directions for further research.

The paper is organised as follows: Section 2 provides a definition of trademark, briefly presenting its origins and characteristics. Section 3 summarises the economic theory connected with the Chicago Law and Economics tradition, which interprets trademark law as an economic device aimed at producing efficiency. Section 4 extends the analysis by introducing the literature which describes the further dynamic effects of trademark on the market structure, while section 5 focuses on the progressive process of unbundling marks from production and products. Finally, section 6 contains the concluding remarks.

2. Definition and origins of trademark

A trademark is a sign -- a logo, a name a word, a symbol or a combination thereof -- used by a producer or vendor to distinguish a particular product or service. Examples of this are the words Coca-Cola, Walkman, No.5 (for a perfume) and the Nike "swoosh" logo.

Because creating distinctiveness is the primary attribute and function of a trademark, producers can in practice superimpose the use of different trademarks in order to better achieve this effect. In the case of Coca-Cola, for example, not only is the name protected by trademark law, but also the distinctive copperplate logo style (purportedly based upon the handwriting of the company's founder Frank M. Robinson), the shape of the bottle, the colour combination and much more. Individual elements such as these can be protected using either a single trademark, or several trademarks together (Blakett, 1998).

Strictly speaking, trademark says nothing, or nearly nothing, about the composition or characteristics of the product: it simply identifies its origin, that is to say the maker of the good. However, purchasers can still glean information about the quality of the good from their own past experience or that of others (Economides, 1988 and 1998). Viewed in this way, trademark is

therefore a sign that resolves an information asymmetry problem (Riley, 1990), and this role is of course relevant to the economic analysis, and shall be discussed below.

So it is by virtue of its ability to convey information and facilitate purchase decisions that trademark is given legal protection. This is explicitly acknowledged by the modern statutes which confer legal protection to a trademark on condition of its being 'inherently distinctive', i.e. able to directly fulfil its stated function.

The signs that possess this attribute can generally be divided into three categories: 'fanciful', 'arbitrary' and 'suggestive'. A trademark is termed 'fanciful' if it consists of novel signs that do not have any pre-existing meaning, as in the case of the words 'Exxon' or 'Xerox'. A trademark is considered 'arbitrary' when it *does* have a previous direct meaning, but in a such a vastly different field that there is no possibility of confusion. Examples of this are the 'Apple' brand of personal computers, 'Quaker' breakfast cereals, and 'Diesel' casual wear. Finally, a trademark is termed 'suggestive' when it refers--even if indirectly--to some property of the product, as in the case of 'Frigidaire' for the refrigerators or 'Business Week' for a weekly news magazine devoted to the world of business.

On the other hand, if a trademark is not 'inherently distinctive'--meaning that the sign does not convey the requisite information and might even, on the contrary, elicit confusion--the owner receives legal protection only if the mark can be shown to have a 'secondary meaning' that directly associates it in the minds of consumers with the origin of the good. Examples of this are surnames used as the names of companies ('Ferrari', 'Armani', 'Levi's', etc.), descriptive terms such as 'All Bran' for whole grain breakfast cereals, and 'Digital' to indicate a maker of personal computers, as well as terms which originally referred to geographical locations such as 'Marlboro', 'San Francisco Chronicle', 'Paris Match', etc. (Economides, 1998; Landes and Posner, 2004).

The information-conveying function of trademark is thus specifically recognised by the law and given explicit protection when it facilitates the purchase decisions of consumers.

We cannot say exactly when trademarks first appeared on markets, though it is widely posited that 'trademarks have existed for almost as long as organised trade' (Blakett, 1998, p. 5). Progenitors of the modern trademark can be found in societies and cultures that are widely disparate, but share the common denominator of having developed sufficiently extensive roadway and communication systems. In fact, the development of long distance trade severs the direct--and trust-based--relationship which exists between producers and consumers. The latter, in particular, will no longer be able to determine the origin (and hence the expected quality) of the goods, unless a specific sign is introduced for this purpose: namely, trademark. Its function is therefore to encapsulate and represent the origin of products, and so also their quality and authenticity.

Some examples of the above mechanism are the production of pottery in ancient Greece, the Etruscan kingdom and the Roman empire, or the production of pottery and silk in Imperial China. In all these cases, trademarks became important elements for conveying information about the origin of the goods (Rogers, 1910; Schechter, 1925; Wilkins, 1992; Blakett, 1998, Alford, 1995). So from its inception trademark had the specific function of conveying information about particular productions, and was used by individual craftsmen or guilds to denote the origin of goods and hence their quality of workmanship. However the protection afforded them was limited, often arising from a 'privilege'--meaning a particular favour granted to an individual or category of producers by the sovereign--rather than from any systematic body of regulations applicable to trade in general. As a consequence, legal protection was virtually non-existent and counterfeiting widespread (Blakett, 1998; Alford, 1995).

Notwithstanding this, trademark continued its inexorable advance with the expansion of markets and trade, and reached its maturity with the Industrial Revolution. The advent of mass production, which on the one hand extended the geographical range of production and consumption, on the other hand weakened the producer-consumer relationship due to the information problem created by increased distance. In the case of extended distribution chains, that often crossed national boundaries, a producer's reputation could no longer be maintained through any form of direct familiarity between buyers and sellers, and so trademark became a crucial element for the mediation of reputation-building.

Theoretically speaking a trademark does not need to be registered, because its validity can be established through use. And in fact this method was common when trade covered more limited geographical areas, facilitating surveillance and reducing the likelihood of conflict with other producers adopting similar signs. Unregistered trademarks are often denoted by the symbol TM. Today, although registration is not compulsory, it does give owners some significant advantages, including a more secure right that does not require demonstrating prior use, greater ease of protection, and virtually unlimited duration (except in the cases that will be discussed below). The symbol used to denote a registered trademark is ® .

The current regulatory trend is toward a strengthening of trademark protection, allowing the owner of an exclusive right over a sign to easily transfer use of that sign to a different market, whereas in the past the same sign could be used by different vendors operating in distinct markets. This form of extended protection applies in particular to those trademarks that are designated 'famous' or 'strong' (Blakett, 1998).

3. Trademark and efficiency

From a legal perspective, trademark is an exclusive right, that is to say a legal monopoly, which pursues the aim of creating new information. It is an intellectual property right attributed to the owner, at least in the first instance (though various possible extensions exist that will be discussed in section 5) to provide an incentive to produce information that is not itself the good being exchanged (as is instead the case for patent and copyright), but rather an accessory element to the exchange of other products (Ramello, 2005).

In general, trademark conveys information relating to the quality of products and therefore facilitates and enhances consumer purchase decisions, while at the same time leveraging the reputation of producers to create an incentive for firms to produce goods or services of desirable quality, to the benefit of consumers and markets (Alchian and Allen, 1977; Landes and Posner, 1987; Lott, 1988; Economides 1988 and 1998; Menell, 1999).

This line of reasoning, widely accepted within the economic theory and the legal decisions of the courts (Beebe, 2005), was formalised by the theoretical contribution of Landes and Posner (1987, reviewed in 2004), and is as a whole informed by the so-called Law and Economics approach which sees trademark as an incentive to create information, for the benefit of markets.

3.1 Trademark as information

The premise being put forward, which appears to take on 'programmatic' contours (the adjective is Beebe's, 2004), is that “trademark law, like tort law in general [...] , can best be explained on the hypothesis that the law is trying to promote economic efficiency” (Landes and Posner, 1987, p. 265).

The underlying economic problem is information asymmetry as the cause of a market failure, described by Akerlof (1970) in the celebrated *Market for Lemons*. In the presence of uncertainty relating to the quality of goods, and in the absence of adequate and credible information, the consumer search cost to consumers in purchase decisions would escalate, while companies would have a greater incentive to mislead consumers as to the quality of the goods produced. The final outcome of such a situation is a reduction in both the average quality of products and the size of the market. Now, because the central problem in these cases is a divergence between social and private returns, an economic device can be introduced to redress their alignment and so maximise the social welfare. In other words, the optimal solution is to create an institution capable of "counteracting the

effects of quality uncertainty. [...An] example of an institution which counteracts the effects of quality uncertainty is the brand-name good” (Akerlof, 1970, p.499).

Trademark therefore reduces both the information costs and, generally speaking, the transaction costs within a market, promoting the attainment of competitive equilibria. In its role as a 'distinctive sign', trademark can indirectly inform consumers as to the quality characteristics of the branded product, even when these are not directly observable⁴. At the same time, this mechanism creates an endogenous incentive for enterprises to avoid opportunistic behaviour and deliver a higher level of quality, in accordance with the precepts of the economic theory on 'reputation (see Shapiro, 1982).

Therefore, from this perspective trademark law has the additional effect of extending the liability regime of producers, thereby functioning as an ex-post market regulation system. In fact, as Akerlof has already noted (1970, pp. 499-500) “[b]rand names not only indicate quality but also give the consumer a means of retaliation if the quality [of a given producer] does not meet expectations”.

Further empirical studies have shown that the magnitude of trademark losses incurred by firms in the event of product recalls, airline crashes, deceptive advertising, fraud and the like is far greater than the actual value of damages caused. This would therefore appear to be not at a directly proportional compensation mechanism, but rather a penalising effect in which the value of losses incurred by the trademark holder may effectively exceed the damages caused (Jarrell and Peltzman, 1985). From this perspective “[t]he loss of trademark capital has the same effect as a penalty clause in deterring a promisor for breaching [a contract]. Unlike a penalty clause, however, the wealth loss borne by the promisor does not accrue to the promisee; thus it does not provide an incentive to induce breach” (De Alessi and Staaf, 1994, p. 480)⁵. In this sense, therefore, trademark has the additional function of producing a 'deterrent' effect in markets. The workings of this deterrence are decentralised, i.e. not enforced by any central body set up specifically for the purpose according to the 'command and control' method (in which case we would speak of ex-ante regulation), but rather by consumers who intervene more flexibly wherever they consider their rights to have been breached, according to the typical paradigms of liability mechanisms.

Overall, according to a consolidated body of law and economics literature, the combined adoption of ex-ante regulation and liability is able to not only promote efficiency but also to produce an optimal level of deterrence, which constitutes a public good (Shavell, 1987).

⁴ Some scholars have however noted that in certain situations trademark can be instrumentally used to reduce the amount of information available, and so to pursue rent-seeking strategies (Dogan and Lemley, 2004). These practices constitute the 'dark side' of trademark and will be discussed below.

⁵ The contribution of Png and Reitman (1994), along similar lines, points out the role of brand as an implicit guarantee of superior quality. See also Tadelis (1999):

3.2 Trademark and hierarchies

Looking instead at the supply side, the existence of trademark and branding can have specific effects on the 'hierarchy' adopted by producers, and consequently facilitate the attainment of production efficiency (Williamson, 1985). We can therefore say that the countenance of today's economic activities has been profoundly affected by the existence of trademarks.

In certain cases trademark has enabled the creation of vertically integrated firms. In fact, as pointed out above, if an increased distance between maker and buyer creates an information problem that can bring about a market failure (in the absence of trademark), the existence and effectiveness of trademark as a signal can conversely promote the creation of ever more extensive and decentralised production organisations, as compared with the previous system of local workshops and craftsmen. It is in fact difficult to imagine mass production without trademark to provide the "information umbrella" necessary for protecting consumers. What is more, certain observers consider that the emergence of large scale firms thanks to the trademark leads to other functional advantages, such as achieving minimum efficient scales in the production of goods or information, access to capital markets, the ability to attract and train specialised personnel, and optimising levels of R&D expenditure (Wilkins, 1992).

In other situations, trademark results in the creation of smaller, specialised production units organised as standalone firms. In this case, the property rights attributed by trademark law can contribute to lowering transaction costs in accordance with the so-called 'new property rights approach', comprehensively discussed by Hart (1995). Trademark is the glue which averts opportunistic behaviour in these relationships, and permits the creation of vertical restraints. One example of such a relationship is franchising, which through use of trademark allows an upstream firm-(the franchisor) to specialise in the production of certain goods and services, also including reputation-building, while the downstream firm (the franchisee) is able to specialise in distribution and cut some of the risks connected with operating on the market, obviously subject to certain contractual terms designed to maintain the value of the reputation acquired by the franchisor (Treece, 1968; Mathewson and Winter, 1985; Dnes, 1996).

If the production specialisation made possible by trademark eventually enables firms to enjoy productive and informational economies of scale (the average information costs are decreasing in the quantity), by the same token it gives rise to economies of scope, as testified by the frequent production diversification of firms that rely heavily on trademark. This is a very common practice in those markets characterised by widespread recourse to so-called brand extension and brand stretching.

Such practices are essentially connected with the increasing returns to scope in the use of a trademark. Once a credible signal has been created, the firm can in fact use it to convey an equivalent amount of information about other, distinct products and this, in line with the above arguments, can lead to the emergence of multi-product firms (Economides, 1998).

3.3 Economic features of trademark law

In general, the efficiency-enhancing objective of trademark law can therefore be used to interpret the regulatory framework and the legal practices associated with it. Because the primary effect of trademark is informative, the distinctiveness of the sign becomes the central element for validating or negating its welfare-enhancing role, while the principles which govern its creation, enforcement and dissolution must be consistent the above stated efficiency criteria.

The underlying rationale is that the objective of any communication system is to minimise information costs. In other words, there is a sort of 'economics of signs and language' that regulates the appropriability of the semiotic universe. So that, for example, if a trademark is considered 'fanciful', there are no particular restrictions upon appropriability. The trademark is completely novel, and because it is possible to create ex-novo an infinite number of such words or signs, no information problem exists. The semiotic stock available to firms seeking to distinguish their products is potentially unlimited.

The same principle also applies in the case of 'arbitrary' and 'suggestive' trademarks, although as Landes and Posner (1987, 2004) point out, because these are referred to existing signs, the available stock is more limited. In any case, given the vastness of the resource--*Webster's Third International Dictionary*, for example, lists 450 thousand words--the supply elasticity of signs is still sufficiently great to not create any problems.

On the other hand, the efficiency balance is very different when the distinctiveness presumably effected by a trademark clashes with a pre-existing meaning, thereby compromising the informative function of the mark, or even contaminating the 'primary meaning' of the sign and its original informative worth to consumers. In this case the criterion of 'secondary meaning' is used to verify the effectiveness of the signal and limit appropriability to those cases where the descriptive term has clearly taken on the function of denoting a specific product (for example, 'All Bran' in the case of cereals). This restriction thus has the effect of averting rent-seeking appropriations that might attempt to transfer the 'primary meaning' of the sign to a specific product.

For the same reason, it is therefore not possible to use generic signs as trademarks (for example the term 'car' as the trademark of a car manufacturer). In fact the social cost of such an operation

would exceed any informational benefits accrued to consumers by the trademark, because all other producers would incur the increased information costs of finding alternative expressions for identifying their products. Landes and Posner (2004) describe such a situation with the term 'language monopoly', which aptly captures the resultant inefficiency (see also Carter, 1990).

A similar efficiency criterion applies to the well known situation of a trademark (whether fanciful, arbitrary or suggestive) that has entered the common language, to become a generic term denoting an entire category of products (consider for example the trademarks 'aspirin', 'yo-yo', 'nylon', 'escalator', 'cellophane', 'thermos', 'kerosene', typewriter', etc.) (Economides, 1998). In this case the specific information-conveying effect of the sign lapses in favour of its general connotation, and maintaining the trademark is no longer economically efficient because it would increase the overall communication costs between other producers and consumers. Therefore, the trademark is no longer protected.

It is interesting to note that, in this particular case, trademark works exactly in the same way as patent and copyright: it provides an incentive to create new information by attributing a temporary exclusive right over the information produced. However--unlike patent and copyright, where this is the primary mechanism for exercise of the right--in trademark it is a sort of outside option for those situations where the public information-conveying value of the trademark exceeds its private value (Ramello, 2005).

The above discussion provides an introduction to the debate on the 'duration' of trademark. In fact, although the duration of the right is theoretically infinite, in practice there exist a number of derogations to the property right designed to limit appropriability when the expected social costs exceed the benefits, as in the above example, or where there is no distinguishing effect--for example in the absence of 'secondary meaning'⁶. A similar argument applies when a firm ceases trading, so that the distinguishing effect of its trademark no longer has any reason to exist.

Finally, it is once again the distinctiveness criterion which governs the enforcement of trademark law in the case of infringement or dilution. The former is the unauthorised use of the trademark or the use of a misleadingly similar trademark on the part of another firm. The general principle is always to avoid creating any confusion, in the minds of consumers, as to the origin of the goods. Penalties for infringement have the function of reinstating the trademark's informative value, disrupted by opportunistic behaviour. In fact the infringer here acts as a free-rider who takes advantage of the information created by the trademark owner to produce goods of a different (generally lower) quality, without incurring the costs of creating the trademark, and so misleading

⁶ 'Lack of distinctiveness would make the mark incapable of identifying the good and recalling to a consumer the information (generated by previous experience with the good by him or other consumers).' In such a case protecting the trademark would no longer answer the institutional objectives (Landes and Posner, 2004, p. 187).

consumers. The final outcome is a lower average quality of goods, whether original or infringing, than there would have been under exclusive use of the mark, and a loss of credibility of the sign. In other words there is a return to the original situation of a market without marks⁷.

The case of dilution is similar, though somewhat more complicated. In fact this is not a violation as such, but rather a theoretically legitimate behaviour that can nevertheless compromise, *lato sensu*, the distinguishing effect of a given trademark and is therefore forbidden by numerous national laws (Schetcher, 1927; Economides, 1998; Landes and Posner, 2004)⁸. It should be noted here that the dilution objection is generally waived in the case of so-called 'famous' or 'strong' trademarks where the informative effect on consumers is very firmly established. What we are looking at here is therefore a sort of indirect violation.

We speak of 'dilution by tarnishment' when the same (or a similar) sign is used by both the owner of the famous trademark and another producer for different goods, but the latter makes a product of inferior value which diminishes the overall value of the sign. An example of this might be a manufacturer of land mines that uses Armani as a trade name. This could, by the workings of an indirect psychological mechanism, alter the reputation of the famous Armani name in consumer's minds, and degrade its connotations of quality (Lunney, 1999).

We speak of 'dilution by blurring' when the use of similar signs in two different markets diminishes the consumer's perception of the distinctiveness of the famous mark. For example, a firm that uses the trade name Martini to manufacture clothing would in a sense be appropriating some of the information conveyed by the Martini trademark--engaging in a form of indirect free-riding--and so reducing the distinguishing effect of the mark. Because the assumption in these cases is that famous trademarks are associated with higher quality, which is the source of their stronger distinguishing effect (Landes and Posner, 1987 and 2004), the absence of anti-dilution protection would, from a dynamic perspective, compromise investments in quality.

The concept of trademark dilution also implies the existence of a further effect of trademark that merits due consideration: the distinguishing effect of the sign, especially in the case of famous and strong trademarks, creates a complex psychological and economic dynamic that goes far beyond mere information-conveying value. This is a dynamic that can significantly alter the market structure and the behaviour of firms, as will be discussed in the following section.

⁷ The results of Grossman and Shapiro (1988a and 1988b), partly along the same lines, also show that under specific conditions, in the case of trade between different nations, the overall effect of trademark infringement may also be welfare enhancing.

⁸ Many regulations incorporate anti-dilution clauses. In Europe, anti-dilution regulations have been enacted by member states as an implementation of Directive 89/104/CE. In the US the Federal Trademark Act of 1946, universally known as the Lanham Act, has been amended to include a specific anti-dilution measure from the Federal Trademark Dilution Act in 1995.

4. Distinctiveness and market structure

The previous paragraph discussed some of the economic effects of trademark: the creation of information that facilitates exchanges, making it possible to increase the distance between production and consumption, promoting the emergence of certain types of productive organisation, and exerting a deterrent effect. All of these arguments, taken together, portray trademark as a source of efficiency for the market. However implementation of the right may also impact upon the market structure and the relational behaviours of firms and consumers, and such effects must be factored into the final efficiency balance.

In fact, the literature sources quoted thus far have always assumed, implicitly or explicitly, that the market will remain competitive. The information cost of trademark is for the most part treated as a production cost necessarily incurred to avert a failure of the competitive market, but which does not have any other significant effects on the choices of consumers (De Alessi and Staaf, 1994). In their contribution, Landes and Posner (1987 and 2004) propose a perfect competition market model in which the (final) gross price to consumers comprises both the net price— i.e. the money price paid out for the good—and its information costs⁹. It follows that, for any given competitive gross price, the firm that can reduce the information costs of consumers through use of trademark will be able to command a higher net price for its goods. The demand curve remains horizontal, indicating that the various combinations of product quality and information provided by trademark are a single homogeneous good in the eyes of consumers. Now this will in effect be true in those situations where trademark has a purely informational role, so that the avoided or reduced search cost represents exclusively an opportunity cost to consumers (Pashigian and Bowen, 1994).

However this simplification overlooks the twofold nature of trademark, as an indication of quality as well as origin, a fact which alters the behaviour of consumers and their relationship with the goods, as legal practice has also clearly shown (Lunney, 1999). In fact, whereas an indication of origin completes the good by adding information and averts a market failure in the presence of information asymmetry, an indication of quality instead gives firms a novel opportunity to establish a preferential communication channel with consumers, and influence their decisions.

⁹ The cost to the consumer can be expressed using the formula $\pi = P + H(T, Y, W)$, where π is the gross price paid by the consumer, P is the net price, and H is the information cost incurred by the consumer, which decreases as the strength of the brand (T) and the availability of signs (W) increases, but is more ambiguously related to other factors (Y) such as the number of competing signs/firms, the available technology for producing information, the cost of the buyer's time, etc. The firm can mark up the price of the good by an amount equal to the reduction in the information costs to consumers brought about via trademark.

Therefore, trademark can be said to produce two separate kinds of distinctiveness, operating on two different levels, and which it is useful to examine separately. The first is an 'absolute' informational effect that tells individuals about the existence and origin of a good identified by a particular trademark. The second is a 'differential' informational effect, that causes consumers to perceive a particular trademark-protected good as different from all the others. This feature corresponds to the aptly termed legal definition of trademark 'strength', and refers to the impact which the sign has on consumers. When lawyers discuss trademark in court, they are principally concerned with its ability to distinguish itself from other trademarks, i.e. to the 'differential distinctiveness' (Beebe, 2005).

If the differential distinctiveness effect prevails, that specific sign will take on for consumers a uniqueness that transforms it from a 'sign among signs' to a 'sign above other signs', a situation referred to as 'salience' or 'brand awareness' in marketing (Ehrenberg and Barnard, 1997; Aaker, 1991)¹⁰.

These two levels of 'distinctiveness' are clearly defined on the semiotic plane, and not interchangeable. Failure to grasp their different economic effects may lead to representations and conclusions that do not reflect the reality (Beebe, 2004 and 2005).

Consider, in this connection, the example of a consumer who walks into a shop and looks at a shelf of trademarked toothpastes. There are two possible perceptions that can be separately analysed. One is that the consumer recognises the existence of different kinds of toothpastes, i.e. produced by different firms, but considers them to be interchangeable. In this case, the 'source distinctiveness' effect of trademark prevails and the market is essentially competitive. The second possibility is that the consumer perceives the various toothpastes but considers one particular brand (say, WHITE) to be superior, perhaps as a result of past experience, because a dentist said so, and so forth. If this second effect prevails, the product WHITE will to a certain extent--proportionate to the strength of differentiation--become unique and poorly substitutable by other products. This consequence depends on the degree of 'differential distinctiveness'.

The prevalence of one or the other effect is naturally not predetermined, but rather the net result of the workings of various mechanisms. This is consistent with the antitrust literature on the relationship between intellectual property rights and competition, which asserts that the rights do not necessarily produce market power. In our example this would correspond to the first case, where 'source distinctiveness' prevails. Intellectual property rights are at source a legal monopoly, which does not necessarily translate into an economic monopoly (Anderson, 1998). Nevertheless, the prospect of an economic monopoly and its attendant supra-profits gives right-holders a strong

¹⁰ 'Salience' is defined as the positive feeling which a consumer associates with a particular trademark or brand.

incentive to adopt any behaviour that can enhance the (real or perceived) uniqueness of the product, making it poorly substitutable and so securing significant market power (Lunney, 1999; Ramello, 2005; Nicita, Ramello and Scherer, 2005).

We can therefore say that the value of trademark resides in its 'selling power', dependent "not merely upon the merits of the goods upon which is used, but equally upon its own uniqueness and singularity" which can be created and opportunely enhanced by the owner (Schechter, 1927, p.831).

Trademark introduces the dimension of 'differentiation' into the market, leading to an endogenous modification of the market structure that is all the more pronounced as differentiation strategies become stronger, with the limiting case of the process being an economic monopoly, where the producer who succeeds in totally differentiating her/his product becomes the monopoly holder (Dixit, 1979; Singh and Vives, 1984)¹¹.

In other words, when there is a significant differentiation effect, demand for the good becomes downward sloping and trademark functions as a barrier to the entry of competitors¹². Such a scenario suggests the risk of a different type of market failure which will also have an impact on the overall efficiency of the market. This is a problem that has been debated in the literature since the start of the 20th century (see Lunney, 1999; Lemley, 1999; Menell, 1999), but is still far from being definitively resolved -- although some scholars consider it irrelevant since the pro-efficiency view of trademark has prevailed in legal practice (Landes and Posner, 1987 and 2004). That said, the economic analysis of the right can provide a truly useful contribution from a regulatory perspective, by pointing out the weak points of any particular law.

Although the question of the effects of perceived differentiation (i.e. identical products which are perceived as different and unique due to the effects of trademark) remains undecided, requiring as it does an evaluation of willingness to pay for semiotic content, there are nevertheless some undisputable negative effects arising from the rent-seeking practices that trademark holders may adopt in exercising the right.

One example is the well-known case of 'brand proliferation' in the cornflakes sector (Schmalensee, 1978), where the production of a wide array of differently branded products by a few firms, under conditions which included the existence of increasing returns in production, had the aim of reducing the potential profitability of the market to competitors in order to restrict their entry.

A similar strategy is being pursued today apparently without hindrance (despite the decades that have passed) by the owners of patented and branded pharmaceuticals, following the expiration of

¹¹ The economic theory has extensively dealt with differentiation strategies, producing a substantial body of literature. For a thorough introduction see Tirole (1988) and Shy (1995).

¹² This argument applies in general to all intellectual property rights (Nicita, Ramello and Scherer, 2005).

their patents. In fact the introduction of so-called 'pseudo-generic' drugs, on the part of these companies appears to be chiefly aimed at prolonging their market power by deterring the entry of generic drugs (Morton, 1999; Kong and Seldon, 2004).

Some observers have also noted a more subtle effect occurring in international trade: that because of the asymmetrical distribution of trademarks in favour of richer nations, the effects of brand loyalty on consumers can to a certain extent be leveraged to transfer market power acquired elsewhere, thereby distorting the development of local industry sectors (Baroncelli, Fink and Javorcik, 2005).

The general hypothesis which emerges is that the use of trademark creates inertia in the consumers of an incumbent firm, resulting in persistence of its market power and altering the competitive scenario so that it no longer resembles any form of the Schumpeterian 'innovation race' that certain contributions explicitly or implicitly assume (Schmalensee, 1982).

Consumer inertia is a crucial side-effect of trademark, and can result in the erection of barriers to entry. Firms are well aware of these inertial effects, which are in fact the objective of creating brand loyalty, which seeks to endogenously generate and increase the switching costs of consumers in order to achieve lock-in (Aaker, 1991). Such practices have clear beneficial effects on the profitability of the firms which succeed in gaining market power, however their ultimate social welfare effects are not so obvious (Klemperer, 1995).

5. The unbundling process: the sign as asset and commodity

The emergence of brand loyalty indicates the establishment of a special relationship between distinctive signs and consumers, which transcends the purview of information to touch upon the emotive and psychological spheres, with some clearly desirable implications for firms. This is a topic area which the economic theory has as yet only touched upon, but with some interesting initial results.

In particular, certain authors have observed a sort of 'unbundling' taking place within different contexts, i.e. the trademark gradually detaching itself from the product to take on a physiognomy and character in its own right, able to be exploited on the markets in various ways.

For example, adopting a supply-side perspective and looking at the literature which studies firms as bearers of reputation, Tadelis (1999) shows how trademark makes it possible to convert the reputational inertia acquired by firms in the past into a tradable asset that can be exchanged on the market like any other resource. The result is the emergence of a market for intangible assets which have a clear role in production, on a par with that of tangible assets.

A part of the scientific literature has also started to examine the emerging practice of transferring the signs and the related signals created through trademark between different markets, with beneficial effects on the firms that are thus able to reduce their information costs and possibly extend their market power. This opens up the chapter of ‘umbrella branding,’ a practice which takes the form of ‘brand extension’ when a trademark is transferred for use on another similar product, or of ‘brand stretching’ if the trademark is transferred to a very different product, and has recently also attracted the interest of industrial organisation researchers (Luini and Mangani, 2002)¹³.

Thus far, there has been no consistent economic evaluation of these practices, with the results in the literature pointing in different directions. For example some contributions focus on the possibility of resolving multiple information asymmetries on disconnected markets through the creation of a single sign which is then adopted for different productions (Choi, 1998; Cabral, 2000). Others look instead to identify the optimal strategies for firms who decide to extend their production into different sectors, all this with the non-trivial observation that consumers can sometimes derive added utility from the purchase of a branded product, even when the brand in question originates in a very distant market and would thus be difficult to justify with the traditional quality arguments (Pepall and Richards, 2002). In such cases marketing scholars speak of ‘brand equity’, meaning the ‘incremental utility’ to the consumer or the ‘value added’ to a product by its trademark (Aaker, 1991 and 1996; Keller, 1993; Rangaswamy, Burke and Oliva, 1993; Yoo and Donthu, 1999). Nevertheless, the evaluation of the resultant welfare effects remains unclear.

Turning instead to address the problem of foreign counterfeiting, Grossman and Shapiro (1988) have found that when this practice is non-deceptive, i.e. when consumers are able to distinguish the fakes from the originals, it can have welfare-enhancing outcomes if the added utility to consumers who decide to purchase the counterfeited good does not exceed the externalities imposed upon the trademark owners. Also in this case, the consumption of a sign, even if counterfeited, generates additional utility to consumers. What is more, the described effects can be enhanced in the presence of demand network externalities, as has been shown by authors in complementary fields (Grilo, Shy and Thisse, 2001).

Although the overall evaluation of the social welfare effects remains unsatisfactory, the above mentioned contributions still have the undisputed merit of pointing out an important change in the role of trademark: the sign has become, at least in part, an economic entity in its own right, producing specific utility, characterised by a specific willingness to pay, and which to a certain extent exploits the tangible dimensions of products in order to take part in exchanges.

¹³ An example of brand extension is the production of iPod on the part of Apple. An example of brand stretching is the production of soft drinks by Virgin, an airline operator (and before that, a recording label).

The observation appears to be confirmed by international law, with the court decisions testifying to the gradual separation of signs from specific products. Some authors speak ironically of a 'divorce' of trademarks from the goods they are supposed to represent, entrained by the interpretation as a specific property right over a semiotic entity that takes part in exchanges in various ways (Lemley, 1999). This has naturally been accompanied by an increasingly broad interpretation of trademark scope--as evidenced by the concept of dilution discussed in section 3.3--and which marks a growing appropriation of the semiotic or semantic universe.

The end result is the transformation of trademark into a commodity (Beebe, 2004). The sign and its meaning, by their nature intangible, are exchanged in conjunction with other goods, not only to remedy information asymmetries but also to satisfy various needs of individuals within the psychological and social spheres. This is accompanied by the emergence of a 'sign value' that sometimes corresponds to the final price paid for the trademark--or rather to the differential with respect to an unbranded product--but can in reality have much wider implications that are not fully reflected by the monetary value. Individuals consume particular goods or signs to display status, to communicate their adherence to (or distance from) a social group, and to perform other complex social functions¹⁴.

This is the insight which Veblen (1899), in his celebrated book *The Theory of Leisure Class*, described with the term 'vicarious consumption': i.e. that consumption of a good can sometimes include production of a message (a meaning) that is not strictly tied to the function of the good. Trademark, as a sign and hence a bearer of meaning, amplifies this dimension and can be shown to operate on two levels: one being the ordinary sphere of tangible economic values, and the other the more intangible spheres of communication, meaning and relationships between individuals. This argument, often put forward as a criticism of the neoclassical tradition by the heterodox approach and by the other social sciences (see Babe, 1995; Baudrillard, 1972), has also stimulated some original contributions in the mainstream economic tradition that seek to better understand consumer behaviour (Bagwell and Bernheim, 1996; Corneo and Jeanne, 1997). The initial results are intriguing, however much remains to be done, and the challenge to researchers is open.

¹⁴ An interesting reflection is put forward by Beebe (2004, p.624): "In asserting that trademarks do no more than facilitate search and encourage quality, the [Law and Economics approach] has long declined to acknowledge what is obvious: that firms produce trademarks as status goods, that consumers consume trademarks to signal status, and that courts routinely invest trademarks with legal protection in an effort to preserve this status-signalling function [...] Entire areas of trademark doctrine cannot be understood except as systems of rules designed to facilitate the commodification [...] of social distinction."

6. Conclusions

The purpose of this paper has been to summarise the extant theory as it relates to the economics of trademark, and to give some suggestions for further research referring to distinct streams of literature. The proposed line of study inevitably passes through the relationship--as yet not fully understood--between economics and signs.

The appearance of trademark as a sign used in exchanges can be traced to the increased separation between the points of production and sale, and so between the makers and buyers of a good. This process generates a market failure caused by the information asymmetry to consumers, who are no longer able to determine the provenance or quality of the products which they purchase. The result is the classic economics of information problem described by Akerlof (1970), in which the market is impoverished in terms of both transactions and quality. Trademark is the sign introduced to remedy the market failure; it facilitates purchase decisions by indicating the provenance of the goods, so that consumers can attribute to the offering specific quality attributes deriving from their own, or others', past experience. Trademark holders, on their part, have an incentive to invest in quality because they will be able to reap the benefits in terms of reputation. In other words, trademark law becomes an economic device which, opportunely designed, can produce incentives for maximising market efficiency. This role must of course be recognised, as a vast body of literature has done, with many important economic results.

However from a broader perspective, trademark appears to do more than simply correct a market failure in the production of information: it has additional dynamic effects which, though largely overlooked, unequivocally contribute to the overall efficiency balance. Examples are the promotion of barriers to entry, market power and rent-seeking activities in general that bear little relation to information-conveying mechanisms or the attainment of efficiency, as well as the creation of a market of signs where very strong protection tends to be assured, even though the welfare effects are as yet poorly understood.

The economic analysis should increasingly pay attention to these issues when studying the efficiency implications of trademark.

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- quantitative methods applied to economics and the social sciences;
- game theory;
- studies on social attitudes and preferences;
- political philosophy and political theory;
- history of political thought.

The Department has regular members and off-site collaborators from other private or public organizations.

Instructions to Authors

Please ensure that the final version of your manuscript conforms to the requirements listed below:

The manuscript should be typewritten single-faced and double-spaced with wide margins.

Include an abstract of no more than 100 words.

Classify your article according to the *Journal of Economic Literature* classification system.

Keep footnotes to a minimum and number them consecutively throughout the manuscript with superscript Arabic numerals. Acknowledgements and information on grants received can be given in a first footnote (indicated by an asterisk, not included in the consecutive numbering).

Ensure that references to publications appearing in the text are given as follows:
COASE (1992a; 1992b, ch. 4) has also criticized this bias...
and
“...the market has an even more shadowy role than the firm” (COASE 1988, 7).

List the complete references alphabetically as follows:

Periodicals:

KLEIN, B. (1980), “Transaction Cost Determinants of ‘Unfair’ Contractual Arrangements,” *American Economic Review*, 70(2), 356-362.

KLEIN, B., R. G. CRAWFORD and A. A. ALCHIAN (1978), “Vertical Integration, Appropriable Rents, and the Competitive Contracting Process,” *Journal of Law and Economics*, 21(2), 297-326.

Monographs:

NELSON, R. R. and S. G. WINTER (1982), *An Evolutionary Theory of Economic Change*, 2nd ed., Harvard University Press: Cambridge, MA.

Contributions to collective works:

STIGLITZ, J. E. (1989), “Imperfect Information in the Product Market,” pp. 769-847, in R. SCHMALENSEE and R. D. WILLIG (eds.), *Handbook of Industrial Organization*, Vol. I, North Holland: Amsterdam-London-New York-Tokyo.

Working papers:

WILLIAMSON, O. E. (1993), “Redistribution and Efficiency: The Remediableness Standard,” Working paper, Center for the Study of Law and Society, University of California, Berkeley.