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Trademark Rights, Comparative Advertising, and “Perfume Comparison Lists” – An Untold Story of Law and Economics

by

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– An Untold Story of Law and Economics

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Abstract

Regarding trademarks, the EU and US regulate comparative advertising differently. One particular matter of significant difference is whether or not competitors are allowed to say they offer an imitation or replica of a trademarked product. In the US, competitors may claim equality of their product as long they clearly eliminate confusion and distinctly market their product as separate from the original. European firms, by contrast, face more obstacles concerning advertising statements conceived to establish their product as equal or identical to a competitor's trademarked product.

If the economic functions of trademarks are clear, it is easier to answer a number of legal questions in the comparative advertising field. One facet rarely explored is the fact that trademarks are the "name" of a product and the legal bridge between consumers' past and future experiences. Such experiences are referred to as attributes or qualities of a product. Attributes describe product characteristics driving individual consumer experiences. Because such experiences are difficult to objectively verify, statements of this kind must submit to particular scrutiny. In principle, the same is true regarding product qualities. Quite often, it is easy to measure quality experiences, but sometimes measuring is not possible depending on whether qualities are public or private. Like with attributes, the legality of referring to product qualities depends on verifiability. Uncertainty of an attribute's verifiability or quality information creates a risk of undue exploitation, particularly consumer confusion. In such cases, strict regulation of comparative advertising is important. In other words, the legal system must prevent confusion in advertising because confusion increases consumer search costs.

In addition to preventing confusion, the issue of trademark dilution is another aspect relevant in analyzing comparative advertising. According to European doctrine, using a competitor's trademark in comparative advertising can be improper goodwill misappropriation. Displaying a competitor's trademark may diminish its distinctiveness, tarnish its image and reputation, or constitute what the ECJ defines as free-riding or parasitic competition. The meandering standards of legal doctrine, however, hardly provide for consistent guidelines. Whether misappropriation is a justifiable term to use in defining comparative advertising requires a closer look at the field's underlying economics. As we will show, in none of these constellations will the appropriation of the competitor's investment be implemented through the market mechanism. It is not a pecuniary, but a technological externality. The metric for assessing admissibility of appropriation must thus be changed from the governing European doctrine of necessity or proportionality to a principle of economic efficiency taking into account both the trademark owner's and the advertising competitor's cost-benefit-ratio.

I. Introduction

Trademarks are essential for market functionality. The New Palgrave Dictionary of Economics and the Law provides a concise and helpful introduction on the value of trademarks:

> "Typically, a trademark says little directly about the composition or specification of the good; instead it identifies the maker of the good. The buyer infers information about the features of the good by remembering his/her previous experience(s). Similarly, the trade name of a company does not explicitly reveal information about the company. The trade name just identifies the company; consumers have to remember what the company produces, the reputation of its quality, etc." (Economides 1998).

Comparative advertising is one instance of trademark use putting the market-regulating function of trademarks at stake. So far, legal scholars and practitioners have not provided for a satisfying solution. Among the cases concerning comparative advertising, there is one constellation particularly confusing in scholarly doctrine and in practice, both in the EU and US. The problematic constellation concerns the so-called "perfume clause" in European Directive 2006/114/EC, which prohibits an advertising competitor to openly claim his product is an "imitation" or "replica" of the original branded product. The perfume clause is the topic of our analysis.

Many are familiar with iconic battles such as those fought between Coca Cola Co. and Pepsi Co., McDonalds and Burger King, or Verizon and AT&T. Often, but not always, the smaller competitor mocks the market leader's product and features, such as drink hipness, food taste, or mobile network coverage, as being boring, lame, or generally inferior. They always, of course, combine mocking with an advantageous presentation of their own product in direct comparison. Evidently, comparative advertising is a popular instrument newcomers use to gain market share on a market-leading company, and vice versa, for the market leader to explain to customers and potential customers why it is still advisable to go with the number one.

Beyond such hornbook cases, the field of comparative advertising offers a number of more subtle variants to test for legality. One of the constellations is the so-called perfume comparison list. Cases of this kind are all structured similarly. Usually the advertising company acts as the defendant, marketing perfumes imitating the smell of luxury originals. Such imitation is not illegal since a perfume and its formula are usually not protected under patent or copyright law in most jurisdictions. Of course, simply using the original brand to sell cheaper knockoffs is direct trademark infringement. The problem for a second-comer is that simply offering the copy will hardly catch enough consumer attention if the cheaper product is thought of as an alternative to the more expensive original. It is necessary to establish a sufficiently close relationship between the original and the substitute without directly using the foreign trademark for one's own product, and yet to still present the latter as a viable option for the consumer.

Establishing the relationship between the products is usually accomplished through a comparison between the alternatives. The method of choice for perfume, a product with few or only one relevant feature, usually is a comparison list promoting the cheaper alternative, which the advertising company offers, over the more expensive original scent. Such lists usually display the name of the original brand with the respective alternative "same smell" nearby, and, necessarily, an accompanying price comparison, which illustrates a tremendous price differential. For example, "Smells like Chanel No. 5 for just $5".

The EU and US regulate comparative advertising differently. They particularly differ on whether competitors are allowed to say they provide an equal product. Under directive 2006/114/EC, the EU set a strict prohibition on comparative advertising if it presents an advertising entity's product as an "imitation" or "replica" of a trademarked original. In the same vein, it also prohibits discrediting or denigrating a competitor by using their trademark. On this basis, in the EU, perfume comparison lists are not allowed. Under US legal doctrine, the original products' trademarks are, at least prima facie, significantly less protected. Comparative advertising is generally allowed as long as the origin and identity of each product is clear. US law bans advertising comparisons that are unclear about who is the original producer. Still perfume comparison lists are principally seen as a legitimate instrument of market communication and commercial speech.

The differences in legal doctrine are surprising. Such divergence contradicts the expectation of a so-called "praesumptio similitudinis," a presumption that practical results in different legal orders are regularly similar at least. The economic underpinnings of trademark and unfair competition law particularly invite closer scrutiny. Notably, this is the case with the per se prohibition in EU law. But the US doctrine of minimum regulation can be challenged as well. Both approaches may be flawed from an economic perspective. Accordingly, since economic models exist for both trademark and advertising functions, it is interesting to see these models applied to the special field of comparative advertising, notably on constellations of perfume comparison lists.

Considering options for reasonable regulation of comparative advertising regarding claims of imitation or replication brings up a number of principal questions for discussion. It is clear that competitors must be allowed to promote products as identical, similar, and alternative to branded originals. Comparative advertising is different from illegal imitation of a competitor's trademark. Yet, it leads to questions about the adequate metric for measuring consumer confusion and misrepresentation through comparative advertising. How precisely must the advertising company inform consumers of the original product's origin, the same or different product features, or what features actually or potentially create the same or different product experiences? In addition, analyzing comparative advertising and trademark use ultimately returns to the eternal question of trademark doctrine: How well protected is an owner's trademark investment? More concretely, should a trademark owner who has incurred costs to establish a trademark be able to legally prevent comparative advertising activities,

which have at least a minimum potential to weaken the economic value of his trademark? Where is the exact demarcation between a beneficial reference to competitor products and product features, and an improper misappropriation of competitor goodwill? In legal terms, the issue is misappropriation of trademark goodwill under the guise of dilution through tarnishment, blurring, or simple free-riding on the goodwill of a famous or well-known trademark. In this regard, it is particularly important to consider the divergence between EU and US law. While non-regulation on side of American law may be a blind spot, European over-inclusiveness with respect to the "perfume clause" smacks of unreasonable over-regulation.

This paper is organized as follows. Section II describes the legal landscape in the EU and in the US. Section III refers to the questions of the underlying economics of trademark law and comparative advertising. Section IV combines legal and economic aspects in order to develop guidelines for a reasonable regulatory framework for comparative advertising with respect to trademark protection. To end, Section V summarizes our findings.

II. The Ragged Landscape of Legal Theory and Practice

A look at legal doctrine reveals that cases of perfume comparison lists, and comparison lists in general, are characterized as a stepchild, not to say bête noire, of trademark lawyers and unfair competition lawyers both in Europe and the US. Both jurisdictions have not only established a significantly divergent metric for the analysis of comparative advertising, each is anything but consistent and settled. This may be due to the lobbying influence on EU legislation and it may be a result of US-typical mid-twentieth century monopoly-phobia. In any event, it is due to a lack of economic analysis.

The European Hierarchy: Trademark Protection and the Prevalence of Comparative Advertising

Under EU law, trademark protection and unfair competition prevention are principally separate areas. Accordingly, the fields' demarcation is a recurring issue in many cases, notably in constellations of comparative advertising. In this regard, however, European lawmakers and the ECJ make it clear the rules on unfair competition concerning comparative advertising principally take priority over trademark protection principles. As recital 15 of the Directive concerning misleading and comparative advertising (2006/114/EC) explains, "Use of another's trade mark, trade name or other distinguishing marks [in comparative advertising] does not breach [a trademark owner's] exclusive right in cases where it complies with the conditions laid down by this directive, the intended target being solely to distinguish between them and thus to highlight differences objectively." The ECJ attempted further clarification in a 2008 decision (O2 Holdings Ltd. / Hutchison, C-533/06) explaining, "The community legislature considered that the need to promote comparative advertising required that the right conferred by the mark be limited to a certain extent" (para. 39). On this basis, the court further concluded, "in order to reconcile the protection of registered marks

and the use of comparative advertising" both the trademark directive and the directive on comparative and misleading advertising "must be interpreted to the effect that the proprietor of a registered trade mark is not entitled to prevent the use, by a third party, of a sign identical with, or similar to, his mark, in a comparative advertisement which satisfies all the conditions... under which comparative advertising is permitted" (para. 45).

Europe's French Signature: The "Perfume Clause" As Per Se Rule

In the tradition of many member states' legislatures in the past, the EU lawmakers established a per se rule on certain kinds of comparative advertising. As article 4 lit. g Directive 2006/114/EC provides, comparative advertising shall, among other conditions, only be permitted if "it does not present goods or services as imitations or replicas of goods or services bearing a protected trade mark or trade name." Imitation claims are an efficient marketing tool for copies of products with few relevant and important features. A most notable example, therefore, are imitation claims using phrases such as "smells like," concerning famous and well-known perfumes. It is no surprise the provision was inserted into the directive after interference by interest groups of the French luxury perfume industry.

Implementation of the so-called perfume clause into the member states' national laws brought forward a plethora of unclarified issues. One example illustrating the practical quandary of applying the clause is found in German case law. The doctrine there is quite representative of other member states' judiciaries and their struggle with the European directive. A central recurring issue in all cases of this kind is the question of how to distinguish non-permissible imitation, or replication claims, from legitimate information about the equivalence, or even identity, of the advertising actor's product compared to the original product. The German Bundesgerichtshof settled on a rather diffuse, but practically flexible formula: Principally, comparative advertising need not expressly use the term "imitation" or "replica" in order to be characterized a non-permissible claim. It may also comprise information that only implicitly transfers such a message. Yet, and this is where the problems begin, the prohibition on imitation and replication claims must not cover claims for equivalence or identity as such. In other words, even German judges seem to have learned a lesson of economic reason: a competitor must always be allowed to inform the marketplace about the features of a product. Since, without such information, competition would be impossible[1].

Notwithstanding these modest beginnings of economic reasoning, the practical outcome is anything but clear. The issue requires additional fundamental analysis of economic underpinnings. For a closer look, we must also dedicate attention to the legal doctrines currently "in the shadow" of the perfume clause. Should the latter actually be found over-inclusive, other doctrines, such as the prevention of confusion and misinformation

[1] See, e.g., BGH GRUR 2008, 628, 631 – Imitationswerbung; BGH GRUR 2010, 343, 345 – Oracle; BGH GRUR 2011, 1153, 1155- Creation Lamis.

and the prevention of goodwill and reputation misappropriation, must ultimately provide the metric for legal scrutiny.

Under the Surface of the Perfume Clause: Misrepresentation, Confusion, and Misappropriation

Besides the prohibition on imitation and replication claims, comparative advertising must not mislead, confuse, or take unfair advantage of a competitor's trademark (see article 4 lit. a, d, f, and h Directive 2006/114/EC). In practice, absolute protection granted under the perfume clause swallows other issues. The per se prohibition virtually obliterated a wider discussion on imitation or replica claims. In order to provide the groundwork for an economic analysis of the problem, it is also necessary to sketch the basic doctrines found under the surface of the perfume clause's over-inclusive scope.

With respect to the protection of consumer decision-making, comparative advertising is subjected to a standard of correctness and objectivity. As stated in Art. 4 lit. 1 a and lit. c, the comparison must not be misleading or deceptive, i.e., it must not contain "false information and... therefore [be] untruthful or in any way, including overall presentation, deceive or [be] likely to deceive the average consumer" (cf. Art. 6(1) Directive 2005/29/EC). Also, the comparison must not cause deception by an omission of material information (cf. Art. 7(1) Directive 2005/29/EC). In addition, comparative advertising must "objectively compare one or more material, relevant, verifiable and representative features of […] goods and services [including prices]."

And there also exists a second category of conditions for the legitimacy of comparative advertising. This category is not conceived with primary regard to the consumer's decision-making process and its protection against undue manipulation. It concerns protection of the competitor-trademark owner's goodwill against injury and improper appropriation. Concretely, protection against damage to, or misappropriation of, a trademark's goodwill centers on article 4 lit. d and lit. f Directive 2006/114/EC. Paragraph d requires that comparative advertising "does not discredit or denigrate the trade marks, trade names, other distinguishing marks, goods, services, activities or circumstances of a competitor." In addition, paragraph f states comparative advertising must "not take unfair advantage of the reputation of a trademark, trade name or other distinguishing marks of a competitor or of the designation of origin of competing products." The first variant is an aspect of trademark tarnishment. The second variant is theoretically and practically more complex. It may concern effects on a competitor's trademarks by either blurring or free-riding.

In L'Oréal/Bellure (supra), the ECJ made it clear that, in addition to tarnishment and blurring, free-riding is a third potential category of trademark dilution. All these categories of goodwill injury and misappropriation may occur when a competitor's trademark is used in comparative advertising. As the court explained:

> "As regards the concept of 'taking unfair advantage of the distinctive character or the repute of the trade mark', also referred to as 'parasitism' or 'free-riding', that concept relates not to the detriment caused to the mark but to the advantage taken by the third party as a result of the use of the identical or similar sign. It covers, in particular, cases where, by reason of a transfer of the image of the mark or of the characteristics which it projects to the goods identified by the identical or similar sign, there is clear exploitation on the coat-tails of the mark with a reputation. (para. 41) ... In that regard, where a third party attempts, through the use of a sign similar to a mark with a reputation, to ride on the coat-tails of that mark in order to benefit from its power of attraction, its reputation and its prestige, and to exploit, without paying any financial compensation and without being required to make efforts of his own in that regard, the marketing effort expended by the proprietor of that mark in order to create and maintain the image of that mark, the advantage resulting from such use must be considered to be an advantage that has been unfairly taken of the distinctive character or the repute of that mark." (para. 49)

With respect to the interplay of trademark and unfair competition law, the ECJ added the provision of the Directive (now Art. 4 lit. f Directive 2006/114/EC), stating comparative advertising must not take unfair advantage of the reputation of a trademark, and the respective provision in the Trademark Directive (Article 5 para. 2 directive 89/104/EEC, respectively directive 2008/95/EC) must "in principle be given the same interpretation" (para. 77). Table 1 summarizes the legal rules.

Table 1: The Law of Comparative Advertising in Europe

➔ Per se: Prohibition of imitation and replica claims (art. 4 lit. g) as an all-inclusive formula	
➔ In favor of consumers	➔ In favor of competitors
-Prohibition on misleading advertising (art. 4 lit. a) -Requirement of objectivity (art. 4 lit. c) -Prohibition on confusion (art. 4 lit. h)	-Prohibition on discreditation/denigration (tarnishment) (art. 4 lit. d) -Prohibition on taking unfair advantage (art. 4 lit. f)

US Law: The Achilles Heel of Chanel – A World of (Almost) Free Market Communication

Looking at US law on comparative advertising, particularly with respect to the treatment of comparison lists, unveils quite a surprising difference, not to say a transatlantic dichotomy. US legal doctrine not only rejects a per se prohibition of imitation and replica claims as implemented in Europe, it also limits legal analysis, at least in principle, to prevent confusion and misinformation.

Principally, US doctrine does not strictly distinguish between trademark protection and unfair competition prevention. The idea of market-information protection dominates the debate in the field. Both trademark protection and unfair competition prevention are intended to protect the consumer against incorrect and misleading information and other information-deteriorating influences by market participants. Not surprisingly, the approach to comparative advertising in the US is less segmented than in the EU. In fact, the issue is almost uniformly and exclusively characterized as a problem of misrepresentation and consumer confusion[2].

The landmark case Smith v. Chanel (402 F.2d 562 (9th Cir. 1968)), albeit almost half a century old, is still good according to the law[3]. It expressly prohibits misrepresentation and consumer confusion. This is a strict rule, but it is nothing more than a strict rule, which is the problem (see id. at 563).

The defendant, a seller of cheap fragrances, made the following statement:

> "Ta'Ron perfumes [i.e., his cheap "imitations"] duplicate 100% perfect the exact scent of the world's finest and most expensive perfumes and colognes at prices that will zoom sales to volumes you have never before experienced" (id. at 563).

In addition, the advertisement contained an order blank listing the trademarks of the well-known original perfumes immediately beneath the list of duplicates, in short a perfume comparison list. For the Chanel-made perfume and its imitation, "Second Chance," the court summarized the comparative list as follows: "Below 'Second Chance' appeared '*(Chanel #5)'. The asterisk referred to a statement at the bottom of the form reading 'Registered Trade Name of Original Fragrance House.'" (id. at 563). The price of the duplicate scent was less than 30% of the original's price.

The central argument of the appellate court was the most principal connection between freedom of communication and freedom of competition:

> "Since appellees' perfume was unpatented, appellants had a right to copy it, as appellees concede. ...There was a strong public interest in their doing so, 'for imitation

[2] cf. Art. 32 and 43(a) Lanham Act; for the common law and claims under the FCT Act see e.g. Conlon, 1997 and Sterk 1977.

[3] See, e.g., 1 A Callmann on Unfair Competition, Trademarks and Monopolies (4th ed., updated April 2014), § 22:43; further see, e.g., Saxony Products, Inc. v. Guerlain, Inc., 513 F.2d 716 (9th Cir. 1975); Calvin Klein Cosmetics Corp. v. Parfums de Coeur, Ltd., 824 F.2d 665 (8th Cir. 1987).

> is the life blood of competition. It is the unimpeded availability of substantially equivalent units that permits the normal operation of supply and demand to yield the fair price society must pay for a given commodity.'... But this public benefit might be lost if appellants could not tell potential purchasers that appellants' product was the equivalent of appellees' product. 'A competitor's chief weapon is his ability to represent his product as being equivalent and cheaper ... The most effective way (and, where complex chemical compositions sold under trade names are involved, often the only practical way) in which this can be done is to identify the copied article by its trademark or trade name. To prohibit use of a competitor's trademark for the sole purpose of identifying the competitor's product would bar effective communication of claims of equivalence" (id. at 567-568).

In addition, the court rejected claims for protection of trademark values other than source identification. This may be due to the fact that it was written in a time of general monopoly-phobia. From the 1930s on, US trademark doctrine was dominated by aversion against right extension and the fear of undue monopolization (see Chamberlin 1947). In the 1960s, conception of trademark rights was still quite critical as the FTC's contemporary encouragement of comparative advertising illustrates (see Reed, 1989).

And even though the wind may have changed since that time, a trademark's sales appeal, i.e. its attractiveness independent of the quality or price of the underlying product, is still deemed an element of consumer irrationality, and, hence, not in the primary focus of protection if comparative advertising is the issue. This most prominently surfaces upon a look at the general approach to trademark dilution. Protection against such misappropriation of trademark goodwill under US federal law, as well as under US state laws, is extensive. Critical scholars contend that current doctrine may already go beyond the boundaries of soundness (see e.g. Tushnet 2008). Yet, notably, the federal statute on trademark protection provides an express exception. Section 43(c)(4)(A) of the Lanham Act inter alia excludes an action for trademark dilution for "(i) advertising or promotion that permits consumers to compare goods or services..."

Hence, even though US courts are principally willing to prevent tarnishment of a competitor's trademark and reputation (see, e.g., Deere & Co. v. MTD Products, Inc., 41 F.3d 39 (2d Cir. 1994)), free-riding on a trademark's goodwill and reputation is hardly sanctioned the way it is in Europe. This, at least, is the rule when comparative advertising is under scrutiny (see also e.g. Landes/Posner, 1987, 307 n. and Callmann, 2014, § 22.43).

Table 2: Comparison of Comparative Advertising laws in Europe and the US

<table>
<tr><td colspan="2">Europe

➔ Prohibition of imitation and replica claims (art. 4 lit. g)</td></tr>
<tr><td>Europe / United States

➔ In favor of consumers</td><td>Europe

➔ In favor of competitors</td></tr>
<tr><td>➔ Europe

-Prohibition on misleading advertising (art. 4 lit. a)

-Requirement of objectivity (art. 4 lit. c)

-Prohibition on confusion (art. lit. h)

➔ USA

Chanel v. Smith</td><td>-Prohibition on discreditation/denigration (tarnishment) (art. 4 lit. d)

-Prohibition on taking unfair advantage (art. 4 lit. f)</td></tr>
</table>

Preliminary Results: Two Legal Doctrines in Ruins …

In essence, a closer look at misrepresentation and confusion as well as goodwill misappropriation suggests both EU and US law may be in need of correction.

European and US lawyers are caught between Scylla and Charybdis. Both doctrines have settled at opposite ends of a sliding scale of regulation, one with respect to the per se-prohibition on imitation and replication claims, and one on the modest focus of misrepresentation and confusion only. In Europe, we have a world of interest group opportunism particularly from the side of upscale perfume producers at the expense of consumers. Scholarship tries to avoid the most antisocial effects of legal doctrine: Perfume is deemed inadmissible for legitimate imitation claims. But comparative advertising concerning generic medication is allowed to help save healthcare costs (see, e.g., Ohly & Spence, id. at 695; Sack 2013, § 6 para. 232). In the US, by contrast, private right owners may find themselves in an almost Hobbesian state of ruthless imitators' liberties; trademark owners must expect to be robbed of their investment, no matter how large and expensive. Unless misinforming, the use of foreign trademarks in comparative advertising is at the competitors' widely unrestricted command.

From an economic perspective, we will see that a per se-prohibition for imitation or replication claims is questionable. There may be a risk of misrepresentation regarding comparative advertising and "same smell" claims. But an undifferentiated overall prohibition is unreasonable, not to say detrimental. Besides, misappropriation of trademark goodwill through comparative advertising is an issue existing as an independent and separate risk in addition to consumer misinformation. Yet, it also defies a complete ban of imitation or replication claims. Here as well, an economically reasonable result requires giving close regard to both detrimental and offsetting effects of product comparison with trademark use.

III. The Way Out – An Economic Re-Analysis of Trademarks and Comparative Advertising

What Is A Trademark and What Are Its Basic Functions?

The economic view on trademarks should start by defining what trademarks are. As mentioned at beginning, providing a clear system of product names ensures that consumers know who has produced the product. The knowledge about the origin of a product is seen as worthwhile economically because the consumer can use past experiences to build expectations of future positive experiences (see Brown 1984, Ramello 2006). These expectations will be fulfilled if producers, the name owners, have an incentive to continue providing products that supply positive experiences for comparison. Economically speaking, repetition must be profit-maximizing. To realize such a fragile equilibrium, several pieces work together:

- The path-breaking model of Landes/Posner (1987/2003) shows how, under perfect competition, trademarks are able to reduce search costs, how much is an optimal investment in trademarks and whether the producer will invest.
- As Landes/Posner modeled, consumers can learn through consumption what products are best suitable to their preferences and what qualities are delivered. Two famous papers show which economic forces are really working to combine past experiences with the future experiences. Lancaster (1966) described consumers as interested in attributes of goods, not on quantities. Shapiro (1983) shows why firms are interested in producing high qualities in the long run, although a short run incentive to reduce quality always exists.
- The basic trademark-model of Landes/Posner can describe exactly what the exploitation of trademarks means.

In this section, one comprehensive framework will model all four aspects.

First of all, Landes/Posner showed the buyer of a good is confronted with the full price π of good "x" (see for the complete model Landes/Posner, 1987, 275-281). The full price π has two elements: the money price P and the search costs H. The customer must pay the money price to the seller. The full price π is the maximum amount which a consumer will pay, either as money price, P, or as the monetary equivalent for searching, H. The search costs, H, are generated by learning costs of the consumer, which becomes

relevant as they learn about the characteristics of the product. Following Lancaster´s consumer theory (1966) good x can be described by $A(a_1, a_2, a_3, a_4, a_5, \ldots, a_n)$, where a_n are possible attributes. Simplifying the model, we assume that the following equation is given:

(1) $$\pi = P + H(T).$$

The search cost H depends on information firm i, with an established trademark, reveals. The consumer learns to what extent the attributes, summarized by A, fit to individual preferences. Past experiences could be valid for the future. Therefore, the established trademark creates a valid bridge between past attribute-experiences in several dimensions, which are ideally expected to continue. In other words, a trademark gives a distinct hint about the source of a good because of past experience. The higher the value of the trademark, which can be interpreted as lower uncertainties about expectations, A, the lower the consumer search costs, H. Referring to attributes, search costs are disappointments about non-received attributes. Rearranging equation (1) leads to:

(1`) $$P = \pi - H(T).$$

Equation (1`) shows lower search costs, H, increase willingness to pay a higher money price.

A firm which is established in a market with a trademark could earn the profit, I:

(2) $$I = P(T)x - C(x) - RT.$$

P(T) represents the price for good x for a firm with an established trademark, C(x) are the production costs for producing x, and R(T) is equivalent to the amount of trademark T. Increasing the amount of trademark by t or the produced quantity x should have the typical positive but decreasing marginal productivities. Positive but marginal productivities of t lead to lower search costs, but with decreasing gains if t increases. R is assumed as constant marginal costs. Inserting equation (1`) in (2) leads to:

(3) $$I = (\pi - H(T))x - C(x) - RT.$$

Deviating the profit function I after the two decision variables, produced quantity x and amount of trademark t, leads to two first order conditions[4]:

(4) $$I_x = 0. \quad \pi - H(T) = C_x.$$

(5) $$I_t = 0. \quad -H_t = R.$$

[4] I_x (I_t)= first derivative of I after x(t); C_x= first derivative of C after x, H_t=first derivative of H after t.

Equation (4) shows the typical optimality condition. The trademark firm should produce more from the good until the marginal costs of production are equal to the product price, here written as money price minus search costs. Hence, trademark firms will produce more of the good if search costs are reduced (e.g. by an higher credibility of trademark), or the full price increases (e.g. because consumers are willing to pay for trademarked goods compared to paying for non-trademarked goods, which are less accepted due to public discussion about the importance of high quality). Equation (5) generates a further aspect for consideration. The firm-specific level of investment in the trademark is optimal if reduced search costs induced by more trademark investment (increasing t) are equal to the marginal costs of trademark. Hence, if imitators reap the benefits of trademarks, expect lower trademark investments. Furthermore, a lower productivity of trademark, or higher costs for trademarks, also lessens the incentive to create trademarks. Finally, both optimality conditions must be fulfilled simultaneously.

Figures 1-3 explain the model results. Figure 1 shows the typical marginal cost curve C_x and average cost curve ($(C+RT^*)/x$), if the optimal amount of trademark is given. The net price P ($=\pi-H(T)$) is seen on the vertical axis, the produced quantity on the horizontal axis. Three alternative net prices ($\pi-H(T^0)$ - $\pi-H(T^1)$) are shown. Figure 1 represents the first order condition of equation (4) under the assumption of different levels of trademark. But, x^* can only be the long run equilibrium because with this quantity x^* and trademark level T^* the zero-profit-condition can be fulfilled.

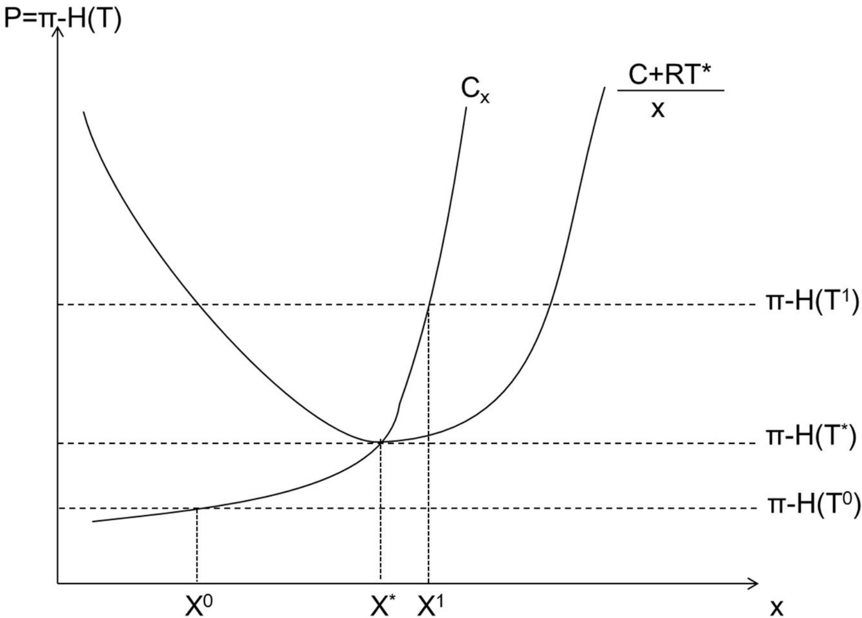

Figure 1: Trademark Model – Optimal quantity (see Landes/Posner 1987)

To explain equation (5), Figure 2 combines the level of trademark on the horizontal axis, and the benefits of trademarks measured in reduced search costs on the vertical axis. Starting with point A on the curve, $-H_t x^0$ represents a given level of quantity x^0 and the saved search costs due to increasing the trademark by one unit of t. If the trademark T^B

is given, a slower increase of search costs saved, or lower marginal trademark productivity, is still enough to receive the same amount of search cost benefit as previously achieved. All other points on the curve represent search cost benefits by the given amount of the produced quantity, X^0. Total search benefits increase the more goods (x) produced, as the social benefits per one unit of good multiplies by the number of goods. Hence, search benefits increase in the direction of the arrow in Figure 2. We confront search benefits with the costs of additional marks, which we assume to be constant (=R). The optimal amount of trademark level is found in point C with T*, where the optimality condition of equation (5) is fulfilled.

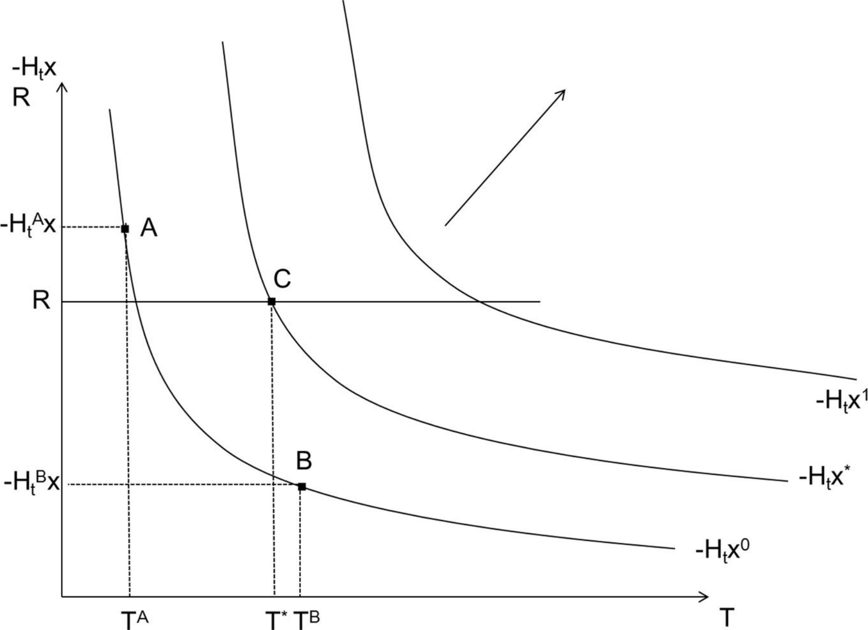

Figure 2: Trademark Model – Optimal Trademark (see Landes/Posner 1987)

Finding a simultaneous optimum it is necessary to bring together the questions x* and T* (see Figure 3). The demand curve of goods with trademarks has the typical slope. The willingness to pay a full price π (=P+H(T)) decreases with consumed quantity. For all possible full price purchases, we could calculate optimal amounts of x* und T* and then add all optimal quantity in one graph. The result is an increasing curve because with the potential of earning higher full price profits producers are willing to produce more products. Higher full price π increases the monetary price P and more x makes T more profitable. The more T decreases the search costs, H, a higher monetary price results. The intersection point of both curves, Point C, shows the optimum values of full price π* and quantity x*. Higher or lower quantities are not socially efficient. Of course, if the consumer is willing to pay a higher full price π, either by paying a higher product price, or bearing more search costs, H, it would produce a higher quantity with another trademark level. Corresponding to curve D, the consumer is not willing to pay the higher price. Production of a lower quantity such as x* results in additional willingness to pay for trademark goods, just as consumer willingness increases with the amount firms invest in greater production with more trademark promotion. Finally, it is important to

recognize we have perfect competition in the trademark good market because the firms must accept the full price π* as price-takers, and no argument for monopoly profits is found.

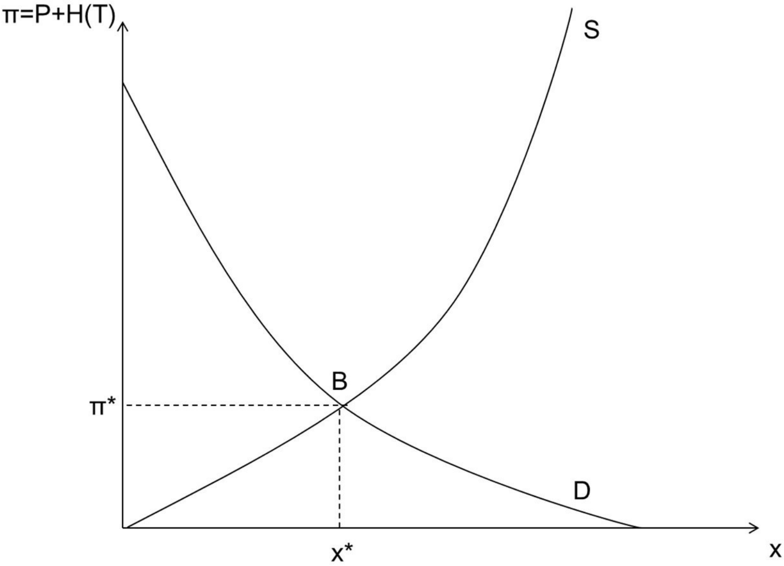

Figure 3: Trademark Model – Optimal Quantity and Full Price (see Landes/Posner 1987)

The quality Q can measure several quality dimensions for the good x:

$$Q(q_1, q_2, q_3, q_4, q_5, \ldots, q_n).$$

Quality dimensions can be, for instance, durability or technical functions, as well as other physical characteristics of a product. Shapiro (1983) modeled quality competition (see Figure 4). Basically, it is assumed that a minimum quality Q_0 is given, which can be produced with costs $C(Q_0)$ (Panel a). Producing a higher quality increases costs $(C(Q))$., but consumers are willing to pay higher prices if it costs more to produce a quality product $(P(Q_1)>C(Q_1))$. For example, production of quality Q_1 requires payment of a higher price P_1, versus costs C_1. The reputation premium $M(Q_1)$ is possible.

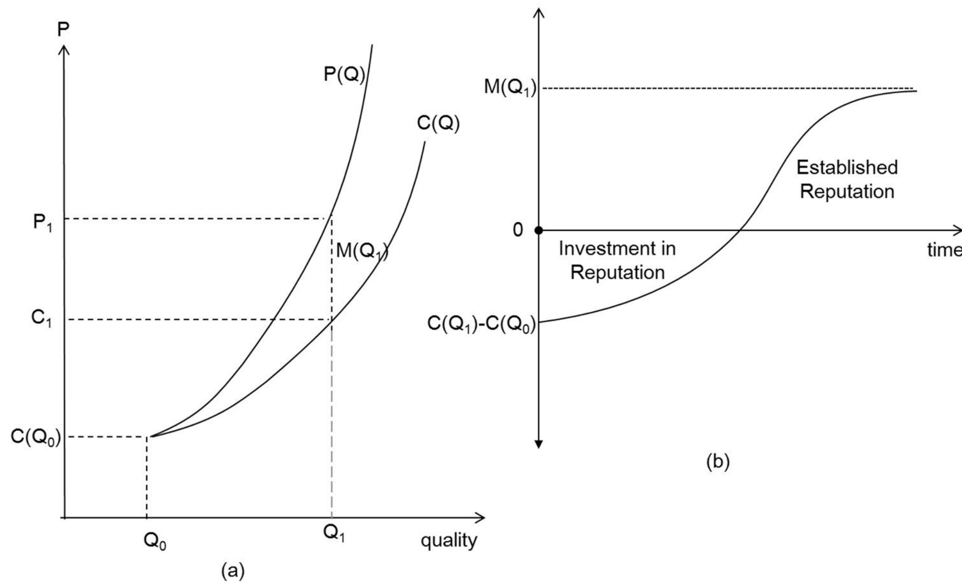

Figure 4: Quality and Reputation (see Shapiro 1983)

The willingness to pay a higher price depends on positive experiences consumers had in the past. This process is expected for so-called experience goods, which consumers learn about through consumption. Eating a meal in a restaurant is a typical example. The so-called credence goods can't depend on customer experience because consumption of credit goods discloses no, or at least less, quality information. Going to a physician does not reveal his medical capabilities. Search goods are also excluded because it is easy to examine search goods before purchasing. For example, if you buy a chair you are able to sit in the chair in advance to purchase. In the case of experience goods, firms must make an investment in their reputation by producing a high quality at a low price (panel b). Consumers learn from the investment, and because of positive experience, their willingness to pay increases. After several periods, the reputable firm is able to capture reputation as seen in $M(Q_1)$. Because the reputable firms still have an immediate incentive to reduce quality to Q_0 and charge a higher price as long as possible, i.e. "milking the reputation," the long-term reputation profits must be higher than any short-term incentives. Building and sustaining a high-quality reputation is easier if consumers experience a strong relationship between past quality experience and future expectation. Trademark protection creates a strong relationship. Landes/Posner (1987, 298-9) have modeled the optimality conditions for trademark supply with quality differences among brands.

Even More Re-Orientation: The Issue of Comparative Advertising

Understanding the role of comparative advertising it is necessary to explicate the economic functions of advertising (see Bagwell 2007, 1708-1724). Chamberlin's model of monopolistic competition refers to competition between differentiated products. Operating in such markets, firms try to create preference for their products through advertising. According to Chamberlin, advertising activities are seen as detrimental

because they create entry barriers. Stigler argued, advertising communicates information about prices and price dispersion is reduced.

Nelson (1970/1974) analyzed the indirect effect of so-called generic advertising. Because a firm advertises, the consumer concludes something concerning the firm or the firm's product. If the quality of a specific good is only judged after consuming it, i.e. an experience good, advertising is helpful because: a) only efficient firms can afford advertising; b) advertising improves the matching between product and buyers; and c) advertising could remind consumers of their past-quality experiences. Schmalensee (1978) showed equilibrium is possible when high-quality firms advertise and low-quality firms do not. Advertising is seen as informative and persuasive, a complementary hypothesis. Stigler/Becker (1977) assumed consumers have stable preferences, but advertising influences preferences complementary to the product. Particularly, advertising may influence the social prestige or perception of goods.

Compared to extensive literature about advertising, models about comparative advertising are rare. Anderson/Renault (2009) suggested consumers observe prices and qualities, but do not know if the consumed product complies with their own expectation, the so-called match valuation r. Firm i is able to disclose their own match valuation r_i, or both their own match valuation r_i and competitor's match valuation r_j. The last alternative describes comparative advertising. Following the Barigozzi/Garella/Peitz (2009) model, firms have the option of: a) no advertising; b) generic advertising, according to Nelson (1974) without explicit or implicit comparisons; or c) explicit or implicit comparisons. The last alternative contains a statement, which is verifiable by court and may lead to compensation in cases of false information.

The following two figures show the positive effect of comparative advertising. Figure 5 represents two firms, which produce good 1 and good 2 respectively. Assuming firm 1 faces demand function $D(P, A_{10})$, which implies a given level of advertising made by firm 1, but without any comparative elements. P_{10} is realized from firm 1. $D(P,A_{20})$ and P_{20} represent the same information, but a higher level of demand ($D(P,A_{20}) > D(P, A_{10})$). Now, we assume some of the advertising information given by firm 2 is persuasive and can be perfectly prevented with comparative advertising by firm 1. This (additional) comparative advertising A_{11} is seen as disclosing match valuations r_1 and r_2 as verifiable legal statements. Given this disclosure, demand shifts from good 2 to good 1, and the demand functions are now shown in $D(P, A_{11}, A_{20})$ and $D(P, A_{11})$. But comparative advertising must be created under costs, so the price for good 1 must increase to P_{11}. Regarding consumer consequences of comparative advertising, we see a positive result. The consumers gain the area B for good 1 due to eliminating persuasive advertising, and area A represents additional consumer surplus as consequence of informative advertising.

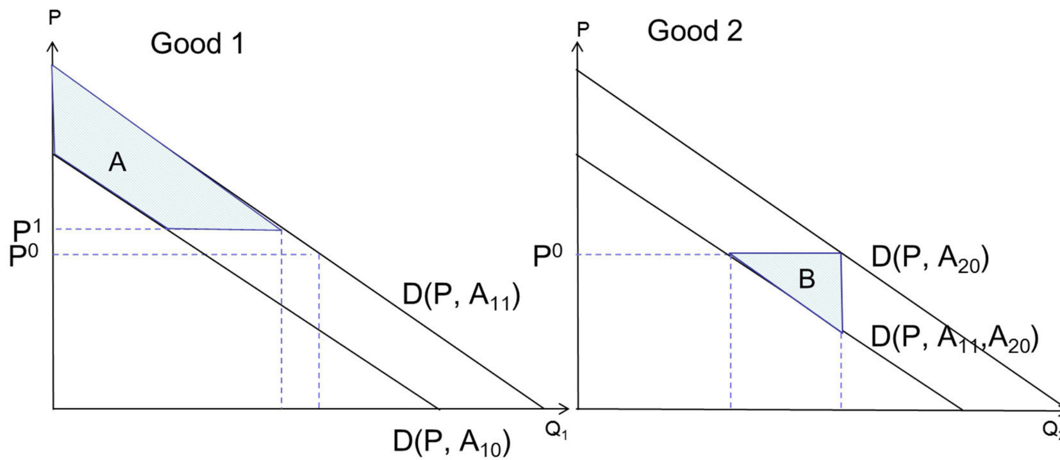

Figure 5: Comparative Advertising

IV. Legal and Economic Aspects of Comparative Advertising and Trademark Use

Confusion Prevention: The Relevance of Qualities and Attributes

Landes/Posner (1987, 301 n.) use their basic trademark model to show how confusion works and what the market consequences are if confusion exists. We assume both firms work with different brands of product x. Firm A established a trademark which has decreased search costs (H^a) to a low level. With the low level of search costs, firm A is able to charge a higher money price P^a because consumers are relieved from search costs. The trademark of firm B is weaker, which means consumers face more uncertainty about the attributes and qualities of B's product than they do with A's product, and thus product B's search costs are higher, ($H^b>H^a$).

In the first version of the model, we have no likelihood of confusion. Hence, the trademarks $T^a + T^b$ exactly represent the perceived attributes and qualities of the different brands. The money price of both brands is written:

(6) $$\pi^a=P^a+H^a.$$
(7) $$\pi^b=P^b+H^b.$$

To produce a comparable situation, we assume that both full prices are equal ($\pi^a = \pi^b$), which implicates consumers are willing to pay the same amount for identical products. The difference is, firm A receives a higher money price because customers are relieved from the burden of search costs, a consequence of the stronger trademark goodwill. The following algebraic calculation shows the relation:

$$\pi^a=P^a+H^a=\pi^b=P^b+H^b.$$
(8) $$P^a-P^b=H^b-H^a.$$

Because of higher search costs in the case of trademark B, A's product price is higher than B's. The profit functions are written as:

(9) $$I^a = (\pi - H^a(T^a))x - C(x) - RT^a.$$
(10) $$I^b = (\pi - H^b(T^b))x - C(x) - RT^b.$$

B's profit function solely depends on search costs, respectively its stock of trademark goodwill. There is no free-riding and no externalities. Because there is no confusion, consumers and products are perfectly matched. Product B's consumers bear higher search costs, which are outweighed by a lower end cost. Product A's consumers have lower search costs, but higher end costs.

Let us assume that consumer confusion exists. Perhaps consumers like to consume brand A, which is associated with low search costs, but because of high uncertainty about attributes they consume brand B and pay higher search costs. Mathematically, we are able to calculate the expected value of search costs H^a:

(11) $$E(H^a) = \varphi^a H^a + (1-\varphi^a) H^b,$$

where the probability φ^a measures with correctly finding A's trademark. $1-\varphi^a$ reflects the probability of finding B's trademark, but preferring A, $0<\varphi^a<1$. In both cases, the confusion is not based on quality, but instead on misperception of search costs related to trademarks. Assuming risk neutrality, consumers would accept the following product price:

(12) $$P_0^a = \pi - E(H^a).$$

Without any confusion the product price is given with:

(13) $$P_1^a = \pi - H^a,$$

where $P_1^a > P_0^a$, because $H^a < E(H^a) < H^b$.

Hence, because of confusion, the price reduction is:

(14) $$P_1^a - P_0^a = \pi - H^a - [\pi - E(H^a)].$$

(15) $$P_1^a - P_0^a = (1-\varphi^a)(H^b - H^a).$$

On the left hand side, the last equation shows the negative difference between higher monetary price, which firm A receives without confusion, and firm B's lower price with confusion. Hence, it shows the negative price consequence for firm A as a result of misperception. We could argue firm B caused the misperception if B's behavior is an inefficient negative technological externality, or market failure. The negative externality is as high as the misperception probability $(1-\varphi^a)$ and the search cost difference between firms B and A. A higher difference indicates a higher uncertainty about

attributes with brand B compared to brand A, which could be phrased as weaker trademark relevance for B compared to A.

The general requirement is to prevent misinformation. Verification depends on whether comparative advertising presents measurable information. Objective propositions are easier to measure than subjective ones. Ultimately, it must be possible for a court to determine the facts and compare them to the advertising comparison. In other words, comparative advertising must provide for a comparison that is verifiable, notably by the practical instruments of civil procedure.

The evaluation is a bit more complex concerning trademark use in comparative advertising. This is all too often due to a distorted and superficial understanding of confusion and misrepresentation. Because trademarks secure clear information about the origin of a product, trademark use is allowed to help determine the producer and to prohibit what may lead to confusion about the source of production. But confusion about the source or origin of a product is not all that matters for trademark protection. The central question is what a competitor is allowed to say about his product in comparison to a trademarked product. The analysis must not only give regard to the question of whether the competitor's comparison may create confusion about the source or origin of his product. It also covers the issue of misinformation about product features, both in regard to the original product and the advertising competitor's product. In light of this, using the two dimensions attributes and qualities, mathematically shown by A and Q, we provide a new perspective on the issue and some new insight.

Starting with attributes $A(a_1, a_2, a_3, a_4, a_5, \ldots, a_n)$, it seems impossible to use comparative advertising prima facie. In principle, all attributes $a_1, a_2, a_3, a_4, a_5 \ldots, a_n$ are previous individual experiences, consequences impossible to objectively measure. Third parties, including judges, can hardly verify the qualities and effects of the consumer's past consumption experiences. At the same time, it is important to protect customer memories and opinions, purchase experiences, of particular products made by particular companies. Such protection secures the possibility to use experiences again. Only then will the trademark bridge continue to work as a channel for "correct" information. Hence, the subjectiveness of $a_1, a_2, a_3, a_4, a_5, \ldots, a_n$ makes it clear comparative advertising cannot use the summarizing label from product A.

A second look at the case of perfume comparison lists illustrates the point and highlights where legal doctrine, at least in Europe, got off track.

The smell of a product is an attribute; it is a subjective experience, hardly to be generalized and felt identically across all members of any given consumer group. A comparison in the sense of "My perfume smells like Chanel No. 5" will be admissible only, and always, if it truly has the exact same chemical formula. Any divergence, as small as it may be, can lead to a violation of unfair competition rules and an infringement of the original product's trademark. If such divergence is significant enough to even potentially effectuate a different smell under certain conditions (e.g.,

depending on room temperature or surface), the product generates a different attribute. Hence, any comparison in the sense of “same,” “as”, or even “like” is intrinsically misleading.

Of course, the fact analyst is always required to take the perspective of the addressee into account. He must give regard to the respective consumer’s capacities to interpret and understand advertising information. If the consumer group is sophisticated enough to dispel the inherent misrepresentation, no problem exists with respect to unfair competition. Yet, consumer sophistication does not alleviate the principal problem of product attributes with respect to private and subjective effects.

Interestingly, mostly lower courts recognize the correlation. And ironically, it is the higher instances that oversaw the correct approach. For the US, the District Court correctly regarded the relevance of attributes, at least in regard to the outcome, by deciding subsequent to and on the basis of Smith v. Chanel (Chanel, Inc. v. Smith, 1973 WL 19871 (N.D. Cal. 1973)). There, the court explained a claim of exact sameness leads to misrepresentation, notably such sameness was amiss in regard to the fragrances at issue:

> “Compounds which do not have the identical chemical composition cannot smell precisely the same. The results of gas chromatograph tests prove that the chemical composition of ‘Second Chance’ is not identical to that of ‘Chanel No. 5’” (ibid).

Oversight of this aspect is also a major defect of the ECJ’s and German Bundesgerichtshof’s case law. So far there is no precise and definite analysis of the exact potential to mislead with regard to perfume comparison lists. As the ECJ concluded without further elaboration:

> “it is irrelevant ... whether the advertisement indicates that it relates to an imitation of the product bearing a protected mark as a whole or merely the imitation of an essential characteristic of that product such as, in the present case, the smell of the goods in question” (para. 76).

Hence, if a perfume producer makes reference to the smell of his and a competitor’s product, this is deemed to “objectively compare... one or more material, relevant, verifiable and representative features of those goods and services...” A problem with article 4 lit. a or lit. c Directive 2006/114/EC prohibits an advertising comparison to be “misleading” and requires it to “objectively compare... one or more material, relevant, verifiable and representative features of those goods and services, which may include price” does not seem to exist. The smell of a perfume is tacitly assumed to constitute a product “feature“ that can be “objectively” compared; a risk of misleading the consumer appears inexistent.

Courts in the member states, inter alia Germany, previously took a similar position. A striking example is found in German case law where the appellate court, analyzing perfume comparison lists, concluded the smell of a perfume is a feature that cannot be

compared objectively (OLG München WRP 2001, 820, 827). The Bundesgerichtshof that had the last word in the case, however, gave short shrift to the appellate judges' argument and found the smell of a perfume to be a relevant feature eligible for an objective and, hence, non-misleading comparison (BGH GRUR 2004, 607, 611-612 – Genealogie der Düfte).

We can also formulate a general finding with respect to the qualities of a product. Using the quality Q (q_1, q_2, q_3, q_4, q_5, ... , q_n), it is possible to advertise using a comparison about one or several q_n. If the features are legally verifiable, comparative advertising concerning these aspects is allowed. Because confusion must not be expected, comparative adertising can be allowed to feature trademarked goods. The more measurable a quality is, the easier it is to use the summarizing indicator Q to compare goods.

Here, however, different product characteristics, such as search time, experience, and credence, are crucial. If quality features are used within a search comparison of goods, the verification problem is insignificant because consumers can prove the quality before consumption. Besides, trademarks are often irrelevant for those goods anyway. Concerning credence goods, however, quality information cannot be derived without further cost, at least after consumption. Hence, in principle, trademarks attached to credence goods should be eligible for comparative advertising only under very restrictive conditions. Finally, a similar problem exists for experience goods. If a consumer can judge a product after consumption, externals must be able to judge it as well. If experiences are objectively measurable, a comparison is possible. We deem this as a situation of freely accessible public information. If the features are subjective however, qualities are classified as private information and comparable to attributes. The use of the summarizing indicator Q is then restricted.

The inherent problem of handling comparative advertising in respect to attributes and product qualities is reflected in other disputed issues of legal doctrine. It is uncontested that a simple comparison of taste differences (e.g., "A tastes better than B") is not verifiable enough to allow for objective comparison (see, e.g., Sack, id. para. 146). It has been unclear for a long time what exact means of verification would suffice to make a comparison legitimate. While part of the doctrine used to demand the qualities at issue were once verified by the consumers themselves, or by the affected competitor, modern case law no longer adheres to such strict interpretation and contents itself with the possibility of verification, if necessary, by an expert opinion[5]. Hence, the metric of confusion and misrepresentation analysis has become lenient, all in accordance with the generally benevolent stance of the Directive 2006/114/EC toward comparative advertising.

[5] See, e.g., ECJ in Lidl Belgium/Colruyt (C-356/04), para. 73; for German doctrine notably: Menke, in: Münchener Kommentar zum Lauterkeitsrecht, 2nd ed. 2014, § 6 UWG para. 209 et seq.

Is There Something Beyond? The Issue of Misappropriation and Dilution

Not only trademark confusion, trademark dilution is also explained in economic terms (see Economides, 1998 and Landes/Posner, 2003, 206-209). A closer look at economic theory shows significant implications for the shape of misappropriation doctrine in comparative advertising. In order to set a basis for such an economic perspective, we must give an overview on the subcategories of trademark dilution. Several constellations of trademark misuse and misappropriation exist that are considered dilutive.

Dilution by blurring, or "whittling away"

Blurring causes a detriment to the distinctive character of the trademark. As the ECJ explains, a trademark's "ability to identify the goods or services for which it is registered is weakened, since use of an identical or similar sign by a third party leads to dispersion of the identity and hold upon the public mind of the earlier mark. That is particularly the case when the mark, which at one time aroused immediate association with the goods or services for which it is registered, is no longer capable of doing so" (ECJ in Intel Corporation, para. 29; ECJ in L'Oréal para. 39). From an economic perspective, the consequence of blurring is straightforward. Over time, the trademark's distinctiveness vanishes and consumers accordingly incur higher search costs (see supra). Higher search costs diminish the net price P(T); hence, the profit I decreases. Blurring causes a negative technological externality, which should be prohibited by law.

Dilution by tarnishment, or "degradation"

As ECJ doctrine formulates, detriment to the trademark's goodwill occurs "when the goods or services for which the identical or similar sign is used by the third party may be perceived by the public in such a way that the trade mark's power of attraction is reduced" (ECJ in L'Oréal para. 40). An example is the use of a trademark for low-quality, dingy, or generally objectionable products. Thereby, public perception of the trademark and/or the public's expectations of product quality may decline. In this case, as well as in blurring, dilution by tarnishment creates a negative technological externality.

Misappropriation of trademark goodwill concerning exclusivity, prestige and repute of a brand - social utility of trademarks

People often purchase branded goods in order to impress others, which is referred to as psychological or positional externality (see Frank 2005 and Luttmer 2005). If competitors are able to sell cheap copies, the signaling function and strength of the original trademark is diminished. Economically, this effect is called the called Snob-effect or Veblen-effect (see Leibenstein 1950). Referring to the Snob-effect, the utility function is written as $U^i=U(x^i_1, x^j_1, x^i_2, \ldots, x^i_n)$. In individual, i consumes goods x_1 to x_n and receives a higher utility as more goods are consumed. But, if individual j also consumes good x_1, i will suffer a utility loss because the power to impress others decreases. Taking the Veblen-Effect with utility function $U^i=U(x^i_1, p_1, x^i_2, \ldots, x^i_n)$ i's utility depends negatively on the price p_1. Now, because of the decreasing price, more consumers can

afford the good. If the market's function and development alone causes these externalities, no allocated problem exists because externalities are only pecuniary or monetary. Hence, selling cheap copies is typical behavior in markets and is allowed. There must be an argument for technological externalities in order to introduce special rules.

Pure dilution, "free-riding" or parasitism

If a trademark holder has invested in the quality of his product and an imitator uses his name without compensation, yet no danger of confusion, blurring, or tarnishment exists, a case of so-called pure dilution may exist. The trademark owner incurs losses because the imitator acquires a part of his benefits, classified as a technological external benefit.

Let us call to mind again the ECJ's reasoning on the question of free-riding in L'Oréal/Bellure (supra):

> "...the taking of unfair advantage of the distinctive character or the repute of a mark, within the meaning of that provision, does not require that there be a likelihood of confusion or a likelihood of detriment to the distinctive character or the repute of the mark or, more generally, to its proprietor. The advantage arising from the use by a third party of a sign similar to a mark with a reputation is an advantage taken unfairly by that third party of the distinctive character or the repute of the mark where that party seeks by that use to ride on the coat-tails of the mark with a reputation in order to benefit from the power of attraction, the reputation and the prestige of that mark and to exploit, without paying any financial compensation, the marketing effort expended by the proprietor of the mark in order to create and maintain the mark's image" (para. 50).

Even without concurrent damage to the trademark's goodwill, or any other injury to the trademark owner, the "unfairness" of the advantage alone determines whether use of a competitor's trademark is deemed a violation of trademark rights. Accordingly, if the advantage is unfairly taken, the competitor's conduct may also qualify as improper with respect to the requirements of fair comparative advertising (supra).

A truncated approach based on the same deontological concept of unfairness occurs with respect to perfume (or other luxury product) comparison lists. As legal scholarship contends, the major motivation on the side of the consumer when buying a cheap imitation perfume is participation in and appropriation of the luxury and exclusivity image of the original brand for the price of a cheap copy. This is already deemed improper and unfair. Inevitably, as the argument goes, with respect to the producer side, a competitor advertising a perfume copy by comparing it to the original brand is said to also intend an improper appropriation of the reputation and ultimately of the investment of the first comer; hence, he is undertaking unfair competition.[6]

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[6] Diane Martens Reed, Use Of 'Like/Love' Slogans In Advertising: Is The Trademark Owner Protected?, San Diego L. Rev. 26 (1989), 101, 119-120 and 131 et seq.; Ohly & Spence GRUR Int. 1999, 681, 695.

In order to determine unfairness beyond these allegedly clear cases of free-riding, legal doctrine established a general multi-factor test. There is agreement that the analysis of "unfairness" requires a balance of interests in light of Directive 2006/114/EC's recitals no. 14 and no. 15 (see, e.g., Menke, ibid § 6 UWG para. 255 et seq.). Notably, recital no. 14 provides a guideline on the basis of a rule of indispensability or necessity:

> "It may, however, be indispensable, in order to make comparative advertising effective, to identify the goods or services of a competitor, making reference to a trade mark or trade name of which the latter is the proprietor."

On this basis, a balance of the following is deemed necessary:

(1) the interests of the advertising party,

(2) the interests of the affected competitor, and

(3) the interests of consumers with a particular focus on the functions of comparative advertising (i.e., the provision of objective market information).

In addition, the term "indispensable" is interpreted to require giving regard to a principle of necessity or proportionality; i.e., there must not be a less intrusive option or alternative for the competitor with respect to the trademark owner's goodwill.[7]

Besides, as it is sometimes proclaimed, it should be in the interest of the consumer to resolve the usual stalemate of the competitors' interests ("Patt der Interessen"). While the trademark owner is interested in minimum invasion, the advertising competitor aims for the most extensive reference to the well-known brand. Then, as it is contended, the consumers' interests in more efficient information tips the scales (see, e.g., Ohly GRUR 2007, 3, 10). Sometimes concerns beyond the concrete advertising comparison at issue are brought forward as the determinative aspect to resolve the stalemate of the competitors' interests. The public's interest in extensive keyword advertising as an instrument of a functioning search-engine infrastructure is an example of these allegedly relevant concerns (see, e.g., Ohly, Festschrift Griss, 2011, 521, 537). This analysis is deficient because it neglects the most fundamental economic tenet. Looking at the issue under an economic perspective reveals it cannot be a tested for unfairness alone, and neither will a balancing of vague interests provide for a workable result. The issue must be efficiency instead. Also, no three-dimensional structure of interests exists where the consumer side ultimately trumps any of the opposing competitors' interests.

The Coasean major hypothesis (1960) provides the guideline, which shows imitation leads to the following consequences:

Consumers are faced with the following full prices. In case of imitation, the full price is

$$\pi_{Im} = P_{Im} + H \qquad (16)$$

[7] see, e.g., ECJ, GRUR 2006, 345 – Siemens/VIPA para. 15; BGH GRUR 2011, 1158, 1160 – Teddybären; Ohly GRUR 2007, 3, 9; Köhler/Bornkamm, UWG, 31st ed. 2013, § 6 para. 157.

and

(17) $$\pi_{To}=P_{To} + H(T)$$

in the case of buying the trademarked good. In accordance with the basic model, we assume the full price

(18) $$\pi^{*} \text{ of figure 3} = \pi_{Im} = \pi_{To}.$$

Hence, regardless of whether they buy the trademarked or the imitated product, consumers realize the same consumer surplus. Because of (16)-(18):

$$P_{Im} + H= P_{To} + H(T).$$

(19) $$H-H(T)= P_{To} - P_{Im}.$$

If imitation causes higher search costs as in case of trademark ($H>H(T)$), then the net price of the trademarked good can be, and is higher ($P_{To}>P_{Im}$).

The trademark owner's profit is given as:

(20) $$I_{To}=(P_{To}-AC_{To})X_{To}, \text{ with } (C+R(T)/X_{To}=AC_{To}).$$

Equivalently, an imitator receives profits:

(21) $$I_{Im}=(P_{Im}-AC_{Im})X_{Im}, \text{ with } (C/X_{Im}=AC_{Im}).$$

We define situation 1 as the starting scenario without imitation. Consumers receive exogenous consumer surplus. Trademark owner's profits are I_{To}^1, an imitator is not active, hence $I_{IM}=0$. Existing profit and consumer surplus represent welfare

(22) $$W^1=CS+I_{To}^1.$$

Scenario 2 refers to imitation. Consumer surplus is exogenously given. I_{To}^2 can be written for the trademark owner's profit. The imitators' profit after market entrance is described by $I_{IM} > 0$. Welfare, in case of imitation, is equivalent to:

(23) $$W^2= CS+I_{To}^2+I_{IM}.$$

Following Coase, imitation should only be allowed if imitation leads to a welfare improvement. Hence, $W^2 > W^1$, or (23) > (21):

$$CS+I_{To}^2+I_{IM} > CS+I_{To}^1.$$

$$I_{To}^2+I_{IM} > I_{To}^1.$$

$$I_{To}^2 -I_{To}^1 >-I_{IM}.$$

(24) $$I_{To}^1 -I_{To}^2 < I_{IM}.$$

Using equations (20) and (21) for equation (24):

$$(P_{To}^1-AC_{To}^1)X_{To}^1-(P_{To}^2-AC_{To}^2)X_{To}^2<(P_{Im}-AC_{Im})X_{Im}$$

$$P_{To}^1 X_{To}^1-AC_{To}^1X_{To}^1-P_{To}^2 X_{To}^2+AC_{To}^2X_{To}^2<(P_{Im}-AC_{Im})X_{Im}$$

(25) $$P_{To}^1 X_{To}^1-P_{To}^2 X_{To}^2+AC_{To}^2X_{To}^2 -AC_{To}^1X_{To}^1 <(P_{Im}-AC_{Im})X_{Im.}$$

Because $P_{To}^2= P_{To}^1+\Delta P_{To}$, $X_{To}^2= X_{To}^1+\Delta X_{To}$, and $AC_{To}^2= AC_{To}^1+\Delta AC_{To}$, equations can be rewritten by:

$$P_{To}^1 X_{To}^1-(P_{To}^1+\Delta P_{To})(X_{To}^1+\Delta X_{To})+(AC_{To}^1+\Delta AC_{To})(X_{To}^1+\Delta X_{To}) -AC_{To}^1X_{To}$$
$$<(P_{Im}-AC_{Im})X_{Im}.$$

$$P_{To}^1 X_{To}^1- P_{To}^1 X_{To}^1- P_{To}^1 \Delta X_{To}-\Delta P_{To} X_{To}- P_{To}^1\Delta X_{To}$$
$$+AC_{To}^1X_{To}^1+ \Delta AC_{To}X_{To}^1+ \Delta AC_{To}X_{To}^1+ \Delta AC_{To} \Delta X_{To} -AC_{To}^1X_{To} <(P_{Im}-AC_{Im})X_{Im}.$$

$$-P_{To}^1 \Delta X_{To}-\Delta P_{To}^1 X_{To}- P_{To}^1\Delta X_{To}+ \Delta AC_{To}X_{To}^1+ \Delta AC_{To}X_{To}^1+ \Delta AC_{To} \Delta X_{To} <(P_{Im}-AC_{Im})X_{Im}.$$

(26) $$-2P_{To}^1\Delta X_{To}-\Delta P_{To}X_{To}^1 +2\Delta AC_{To}X_{To}^1+\Delta AC_{To} \Delta X_{To}<(P_{Im}-AC_{Im})X_{Im}.$$

(a) (b) (c) (d)

X_{Im} must be higher than zero and $(P_{Im}-AC_{Im})>0$ in case of successful market entrance. Therefore, the right hand side of equation (26) is always positive. Hence, the imitation is only welfare increasing/efficient if the left hand side of equation is smaller than the right hand side. On one hand, negative terms increase the probability of efficient imitation. On the other hand, positive values are connected to a lower probability of a welfare improving imitation. Economically, the left side is determined by:

(a) the changed quantity of trademarked goods weighted by the old price, multiplied with -2 (weighted quantity effect),
(b) the negative value of the product “price changing” and old quantity (weighted price effect),
(c) the doubled value of average cost changing weighted by old quantity (weighted cost effect),
(d) the product of the average cost changing and quantity changing (“cross” changing costs and quantities).

Because of P_{To}^1, $X_{To}^1 > 0$, the left hand side of equation (26) can be written:

(27) $$-2(+)\Delta X_{To} -\Delta P_{To}(+) +2\Delta AC_{To}(+) +\Delta AC_{To} \Delta X_{To} <(P_{Im}-AC_{Im})X_{Im}.$$

Analyzing the following parts of the left hand side:

- If imitation creates “damages” for trademark owners by decreasing trademark prices and quantities, combined with higher costs ($\Delta X_{To} < 0$, $\Delta P_{To} < 0$, and $\Delta AC_{To} > 0$), then:
  $$-2(+)(-) -(-)(+) +2(+)(+) +(+)(-),$$
  the first three terms are definitely positive, and the fourth and last term is negative. Economically expressed, all three weighted effects on quantity, prices and costs are

reducing the probability for efficient imitation; on its own, the cross effect of changing quantities and costs has an opposite effect.

- If imitation does not influence the amount of trademarked goods ($\Delta X_{To} = 0$), then the left hand side is reduced to:

  $$-\Delta P_{To}(+) + 2\Delta AC_{To}(+).$$

  The weighted price and cost effects decide the left hand side. Decreasing price and increasing average costs lead to positive weighted effects and therefore a positive left hand side. Efficient imitation is expected rather than an inefficient.
- If trademark owners are able to charge the same prices as before ($\Delta P_{To} = 0$), then the left hand side is equal to:

  $$-2(+)\Delta X_{To} \quad + 2\Delta AC_{To}(+) \; + \Delta AC_{To}\, \Delta X_{To}.$$

  Hence, the weighted price effect can be ignored. Negative quantities and higher costs create two positive and one negative terms. The probability of efficient imitation is strengthened by two factors and weakened by one.
- If trademark owners work without any (dis)economies of scale $AC_{To} = 0$), than

  $$-2(+)\Delta X_{To} \; - \Delta P_{To}(+).$$

  If reduced prices and quantities occur, the left hand side will certainly be positive; hence, inefficient imitation has a higher probability.
- If the trademark owner receives “windfall profits” by imitation, higher quantities and prices, ΔX_{To}, $\Delta P_{To} > 0$, and lower costs $\Delta AC_{To} < 0$, than

  $$-2(+)(+) \; -(+)(+) + 2(-)(+) \; +(-)(+),$$

  hence all terms are negative, and imitation is definitely efficient.

To sum up, if trademark owners are burdened by damages the probability of inefficient imitation is high. In the case of windfall profits, imitations are efficient. If prices, quantities, or average costs remain unchanged, efficient imitation becomes likely, ignoring one counter effect. If courts have to decide about efficient imitation, they must evaluate general price effects, quantity effects and average cost effects, but only if lower prices, lower quantities, or higher costs negatively influence trademark owners.

According to Coase, the efficiency orientation ignores distributive consequences. Trademark owner profit losses generated are acceptable to the extent that comparative advertising is efficient. These losses may appear unfair, but stringent economic perspective avoids such ambiguous aspects. The necessary reorientation ultimately replaces the current governing standard of indispensability. Comparative advertising is indispensable and thus legitimate if the market entrance of an imitator or the extension of his market position is efficient.

Based on the efficiency orientation, it becomes clear current European unfair competition doctrine needs several alterations and modifications. First, the metric for an assessment of comparative advertising must be the economic efficiency, notably in regard to perfume comparison lists. The current governing doctrine of unfairness, albeit widely phrased in economic terms, disregards a most basic foundation of welfare economics. This ultimately distorts the regulatory framework for comparative

advertising. Notably, the ECJ's doctrine of trademark dilution and unfair competition regarding free-riding needs correction. If there is no likelihood of confusion, or of any detriment to the distinctive character, or repute of a mark, the Coasean equation indicates the comparison at issue is economically reasonable and will enhance social welfare. A per se prohibition of such constellations is economically unsound.

V. Conclusion

Regarding trademark protection, the regulation of comparative advertising significantly differs between the EU and the US. It is particularly the handling of imitation or replication claims that is different. This divergence was the starting point for our more specified analysis of perfume, or, more generally, product comparison lists. As a closer look at economic theory shows, a number of open questions, so far unclear in legal scholarship and in practice, are answered by close reference to the market functions of both trademark right protection and comparative advertising.

With respect to the risk of misrepresentation and confusion inherent to comparative advertising, our economic analysis revealed an oft-overlooked subtlety. A trademark as the "name" of a product is the legal bridge between the consumer's past experiences with a product and what he can expect for future experiences. Such experiences refer to attributes or qualities of a product. An attribute describes individual consumer experiences resulting from product features and characteristics. Because such experiences cannot be reliably verified, a risk of misrepresentation exists whenever the basis of comparative advertizing uses a basis of individual consumer experiences. Necessarily, therefore, comparative advertising claiming product identity, such as an imitation or replica, and accompanying correspondence citing product experiences must not be allowed. Quality experiences are more heterogeneous. Some can be easily measured and some cannot, depending on whether they are public or private. In the case of search goods and experience goods, quality experiences are mostly public. Referring to credence goods, quality experiences are private. Hence, if attributes and private quality experiences drive past trademark experiences, statements of identity or equality, such as imitation or replication, must be forbidden. Yet, if a public quality experience is the center point, comparative advertising can concentrate on a verifiable feature. In such cases, comparative advertising becomes informative advertising without an inseparable and incumbent risk of confusion and misrepresentation.

Concerning non-confusion-related issues of comparative advertising, our second focus was on misappropriation doctrine. We challenged the "trinity" of trademark dilution constellations in current European doctrine: tarnishment, blurring, and free-riding. We found the last variant of free-riding, or "parasitic" misappropriation, of the trademark's goodwill or reputation is currently used quite flexibly ("unfair advantage"). Yet it is an economically unsound instrument for the regulation of market information. Potential goodwill misappropriation by means of comparative advertising should be analyzed by comparing welfare gains and losses due to higher search costs. Following the basic result of the Coasean theorem, comparative advertising is only "indispensable" if a

competitor's market entrance is efficient. This means there must be a net welfare gain. Different from dominant doctrine in legal scholarship and practice, no one-size-fits-all rule of indispensability, necessity, or proportionality exists.

A table variation of the two preliminary overviews given on current European and US doctrine (supra) shows a final summary of the results of our analysis:

New Standard: No more per se prohibition under the perfume clause	
In favor of consumers:	In favor of competitors:
Prohibition on misleading advertising Prohibition on confusion	Prohibition on blurring, discreditation, denigration (tarnishment)
Prohibition on non-objective comparisons -in the case of attributes -in the case of qualities concerning credence goods -in the case of qualities concerning search goods and experience goods, if qualities are private	Prohibition on free-riding, parasitic misappropriation… …but: only if identification is dispensable = Coase-standard of cost-benefit-comparison/efficiency Efficiency: Evaluation of producer interests; consumer interests will be automatically given regard to through the balancing of the competitors' interests

Table 3: Regulation of Comparative Advertising, As It Should Be

Appendix

Expected value of search costs H^b:

$E(H^b)=\varphi^b H^b+(1-\varphi^b)H^a$,

where the probability φ^b measures correctly finding B's trademark. $1-\varphi^b$ reflects the probability of receiving A's trademark, but preferring B; $0<\varphi^b<1$. Assuming risk neutrality, consumers would accept the following money price:

$P_0^b=\pi-E(H^b)$.

Without any confusion the money price is given with:

$P_1^b=\pi-H^b$,

where $P_o^b>P_1^b$, because $H^a<E(H^b)<H^b$.

Hence, because of confusion the price reduction is:

$P_0^b- P_1^b= \pi-E(H^b)-[\pi-H^b]$.

$P_0^b- P_1^b= \pi-[\varphi^b H^b+(1-\varphi^b)H^a]-[\pi-H^b]$.

$P_0^b- P_1^b= \pi-\varphi^b H^b-(1-\varphi^b)H^a-\pi+H^b$.

$P_0^b- P_1^b= -\varphi^b H^b-(1-\varphi^b)H^a+H^b$.

$P_0^b- P_1^b= +H^b-\varphi^b H^b-(1-\varphi^b)H^a$.

$P_0^b- P_1^b= (1-\varphi^b)H^b-(1-\varphi^b)H^a$.

$P_0^b- P_1^b= (1-\varphi^b)(H^b-H^a)$.

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