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Substantial Transformation: The Worst Rule for Determining Origin of Goods - Except for All the Rest

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Substantial Transformation: The Worst Rule for Determining Origin of Goods – Except for All the Rest

John M. Peterson*

ABSTRACT

Determining the origin of an imported product for purposes of assessing Customs duties has gained exceptional importance in recent years due to the imposition of “retaliatory” duties on Chinese goods pursuant to Section 301 of the Trade Act of 1974 and “national security” duties on steel and aluminum imports pursuant to Section 232 of the Trade Expansion Act of 1962.

Although United States courts, eight decades ago, pronounced a rule of “substantial transformation” based on manufacturing or processing that results in the creation of a new article of commerce, having a name, character, or use different than its ingredients or materials, United States Customs and Border Protection has strayed from that rule, providing it lip service, but making origin determinations on such amorphous and subjective bases such as defining the “essential” component of a good or requiring “sufficient” working or processing. This Article discusses why the traditional “substantial transformation” rule best serves the needs of international commerce.

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I. INTRODUCTION

A product's country of origin is its "passport" in international trade. The nationality assigned to a good will determine, *inter alia*, whether it may be admitted into a given country, the rate of duty to be charged, the applicability of quotas and special assessments (such as antidumping and countervailing duties), and the manner in which the good may be marked and sold. Country of origin may also determine whether a good may be offered in government procurements, whether the good qualifies for special tariff programs, and whether it is subject to politically motivated trade sanctions. Origin determinations also drive the development of trade statistics, which governments use, in turn, to measure and drive international economic policy.

Despite decades of harmonization in international trade, with nations working through international organizations to adopt harmonized tariff classification systems and uniform rules for determining customs values, no internationally agreed-upon origin rules exist. Even within a single country, such as the United States, the tests for assigning origin to an imported good remain ill-defined and confusing. With the single exception of textile and apparel products,¹ Congress has not seen fit to legislate non-preferential rules of origin for imported merchandise. Origin rules have developed through the common law, with courts devising the "substantial transformation" test of a change in "name, character, or use" to ascribe a country of origin to a good produced in two or more foreign countries.² Though seemingly a simple, commercially based test, the substantial transformation rule has proven controversial in its application, and in recent years, U.S. Customs and Border Protection (CBP) has, in many cases, eschewed this rule altogether. In dozens of published rulings, CBP pays lip service to the substantial transformation test but never applies name, character, or use in arriving at their origin determination.³ Instead, the CBP claims a finished good's origin supervenes on the origin of its "essential character" component, and the CBP applies an ill-defined (some might say "undefined"), subjective concept of "sufficient working or

1. 19 U.S.C. § 3592.

2. See *United States v. Gibson-Thomsen Co.*, 27 C.C.P.A. 267, 273 (1940).

3. See, e.g., *Customs Headquarters Ruling H304677*, U.S. CUSTOMS & BORDER PROT. (Apr. 21, 2023) (finding that printer manufactured in Mexico was of Chinese origin because a Chinese "transport" component imparted the printer's "essential character"); *Customs Headquarters Ruling H322161* U.S. CUSTOMS & BORDER PROT. (Mar. 14, 2023) (holding that an automobile actuator assembly produced in Mexico was subject to Section 301 duties because a Chinese-origin motor imparted the "essence" of the product).

processing” in evaluating whether different operations are sufficient to be origin-conferring events.⁴ Frequently, the application of these tests yields absurd results.

CBP’s drift away from the substantial transformation precepts of name, character, and use has proven enormously unhelpful for businesses, who can no longer look to “objective, understandable and predictable” rules of origin as anticipated by the World Trade Organization’s (WTO) 1994 Marrakesh Agreement on Rules of Origin.⁵ Other goals of the Marrakesh Agreement have also fallen by the wayside as CBP’s origin rulings become increasingly inconsistent and unpredictable.

This paper submits that the substantial transformation test remains viable—and necessary—as the principal basis for determining the country of origin of imported goods for non-preferential purposes. Modern manufacturing includes important processes that can change a good’s name, character, and use, and many of these advanced technological processes were not contemplated by the drafters of most of the nation’s country of origin precedents. Such unanticipated processes include the rising role of intangibles (such as software and firmware) in producing goods, as well as the treatment of complex microelectronic assemblies that use these intangibles. Also significant is whether operations that process a single material or substance⁶ should be treated differently from operations that combine multiple materials or substances to create a commercial article. Absent consistent administrative or judicial guidance concerning how these issues should be addressed, CBP might wish to consider using Administrative Procedure Act rulemaking to delineate how these particular issues will be handled in origin determinations.

II. LACK OF INTERNATIONAL HARMONIZATION

While agreements adopted under WTO auspices and implemented by member nations have established harmonized tariff classification and customs valuation rules worldwide, international efforts to harmonize non-preferential rules of origin for goods in international

4. See, e.g., *New York Customs Ruling N304773*, U.S. CUSTOMS & BORDER PROT. (July 1, 2019) (holding that sink blanks of Chinese origin did not undergo “sufficient working or processing” when transformed into sinks in Vietnam).

5. Marrakesh Agreement Establishing the World Trade Organization, Articles on Rules of Origin at art. 9(1)(c), Apr. 15, 1994, 1868 U.N.T.S. 403, https://www.wto.org/english/docs_e/legal_e/22-roo_e.htm [<https://perma.cc/E5LA-5U2D>] (archived July 21, 2023) [hereinafter Marrakesh Agreement].

6. In operations involving the treatment of a single material or substance, the threshold question is whether the operation results in a “new and different article of commerce,” or is just an advancement in condition of a certain material. The “new and different article of commerce” requirement needs to be met before consideration of the “name, character or use” factors is appropriate.

trade have not succeeded. The WTO's 1994 Marrakesh Agreement did not attempt to craft uniform international origin rules; instead, it set out certain standards that national origin rules should meet. In particular, the Agreement provides that origin rules: "should be applied equally for all [non-preferential purposes]"; "should be objective, understandable and predictable"; "should not be used as instruments to pursue trade objectives, directly or indirectly"; "should be administrable in a consistent, impartial and reasonable manner"; "should be coherent" and "should be based on a positive standard."⁷

Applying a given rule of origin, such as the United States' substantial transformation test, should be relatively easy. However, crafting a rule on a blank slate can be difficult and contentious. Following the success of the WTO's Uruguay Round Trade Agreements, the WTO charged the Brussels-based World Customs Organization (WCO) with conducting a three-year study aimed at devising uniform non-preferential merchandise rules of origin.⁸ The WCO's *Harmonization Work Programme for Non-Preferential Rules* was initiated in July 1995. Its delegates met over the course of about eight years in eighteen formal sessions and three informal sessions before reporting that they were unable to reach a consensus. Not only did the delegates fail to reach an agreement on rules of origin for particular goods, but they were unable to agree on the basic principles which should underly rules for individual goods.⁹

Generally speaking, there are four principal ways nations approach non-preferential rules of origin for goods. Some countries, like the United States, use the rule of substantial transformation, which is grounded in concepts of commercial identity.¹⁰ This approach is commercially understandable. For example, a businessperson whose firm combines fifty discrete components to create a new article of commerce should be able to know intuitively that he or she has created a new product with an origin in the country where the finished good was created from the fifty discrete components. The downside of such a test, however, is that it requires case-by-case decision-making by customs authorities. Given the range in complexity and scale of available manufacturing operations, interpretations of the substantial transformation rule are often inconsistent and difficult to reconcile. Thus, for example, US courts have held that combining filler sheets into a binder to make a photo album is an origin-conferring substantial

7. Marrakesh Agreement, *supra* note 5, art. 9.

8. *See id.* art. 9(2) (outlining the directive to perform this study).

9. Issues to be resolved are summarized in the WCO's Rules of Origin – Handbook. *See Rules of Origin-Handbook*, WORLD CUSTOMS ORGANIZATION <http://www.wcoomd.org/~media/wco/public/global/pdf/topics/origin/overview/origin-handbook/rules-of-origin-handbook.pdf> [https://perma.cc/D3N7-V3LN] (archived Aug. 7, 2023).

10. *See, e.g., United States v. Gibson-Thomsen Co. Inc.*, 27 C.C.P.A 267 (1940). Some countries use the same fundamental test, determining origin based on "substantial working or processing" or the last "economically justified working or processing."

transformation,¹¹ while drawing rigid steel wire rod into flexible steel wire is not.¹²

In some cases, US courts have crossed from inconsistency into outright error, applying the substantial transformation test in what has been termed a “disjunctive” manner.¹³ Rather than comparing the finished product that emerges from manufacturing with the input materials, courts have required that the *individual components* used in manufacturing be themselves transformed.¹⁴ These decisions have caused substantial confusion in the marketplace, and some courts have disavowed the use of the “disjunctive test.”¹⁵

A second major approach to determining origin for non-preferential purposes is inquiring whether, as a result of manufacturing operations, components undergo qualifying shifts in tariff classification under the international Harmonized System nomenclature. This method is a fairly standard basis for determining rules of origin in Free Trade Agreements (FTA), and the United States adopted this methodology for its NAFTA Marking Rules.¹⁶ While tariff

11. See *M.B.I. Indus. v. United States*, 16 C.I.T. 495, 502–03 (1992).

12. See *Superior Wire Inc. v. United States*, 11 C.I.T. 608, 615 (1987).

13. See *Cyber Power Sys. (USA) Inc. v. United States*, 560 F. Supp. 3d 1347, 1349 (Ct. Int'l Tr. 2022) and cases cited therein.

14. See, e.g., *Energizer Battery Inc. v. United States*, 190 F. Supp. 3d 1308, 1320 (Ct. Int'l Tr. 2016) (finding no “substantial transformation” in the assembly of flashlights because the components used in assembly had a “predetermined use” and were not themselves changed in form by the manufacturing operation); see also *National Juice Products Assn. v. United States*, 10 C.I.T. 48, 57–58 (finding that reconstituted “single strength” orange juice was not a distinct product from the frozen concentrate used to make it, since the concentrate was deemed not to have sufficiently changed).

15. See, e.g., *Cyber Power Sys. (USA) Inc.*, 560 F. Supp. 3d at 1355, where the Court noted:

If, as Defendant argues, components assembled for a pre-determined use may never constitute substantial transformation, then, for all practical purposes, there can never be a substantial transformation because there will always be a pre-determined use. There would be no *Belcrest Linens v. United States*, 741 F.2d 1368, 1372 (Fed. Cir. 1984) (substantial transformation resulted from cutting bolt of cloth, scalloping, and sewing into pre-determined use of pillowcases); or *Ferrostaal Metals Corp.*, 11 CIT at 471, 664 F. Supp. at 536 (substantial transformation as result of continuous hot-dip galvanizing process into pre-determined use for resulting product). It is one thing to say that the attachment of a handle to a pan, or a sole to a shoe, is too mundane for a substantial transformation; it is another to suggest that all parts (however many) assembled into a “pre-determined” product may never result in a substantial transformation. That is not, and cannot be, the law.

See also *Uniden America Corp. v. United States*, 24 C.I.T. 1191, 1195–98, 120 F. Supp.2d 1091, 1095–1099 (2000).

16. 19 C.F.R. § 102.20 (2021). The NAFTA Marking Rules were adopted in accordance with the requirements of Annex 311 of NAFTA and were used to determine

classification changes may be a useful guide to determining the origin of particular goods, they do not provide a suitable basis for making origin determinations generally. The Harmonized System nomenclature was devised as a system of tariff classification, not a lodestar for making origin determinations. Some tariff headings are exceptionally broad in scope,¹⁷ while others may describe a single product. Inevitably, origin rules based on tariff classification changes will produce some commercially absurd results. Origin rules based on tariff shifts are mechanistic and require producers to put in a great deal of work to trace origin and to determine the classification of the materials they use in manufacturing. Unlike the substantial transformation rule, which merchants can generally apply intuitively, tariff shift rules often require companies to engage professional assistance to assist them in making origin determinations.

A third major basis for determining origin is through value-content rules. These rules typically deem goods to originate in a particular country if a specified percentage of their cost or value (including materials and, in some cases, processing costs)¹⁸ is traceable to materials or operations in a specific country. However, value-content rules are unpopular with businesses, as they require businesses to open their books and records for invasive examination by customs officials. Complicating the application of these rules are considerations of whether “intermediate materials” should be recognized, with values of raw materials “rolled up” and treated as costs incurred in the intermediate materials producing country.¹⁹ Ultimately, however, these rules are arbitrary. Where is the line of demarcation? Is a 40

the origin, for marking and certain other purposes, of goods imported into the United States from Canada and Mexico. The status of these rules after the mid-2020 termination of NAFTA is unclear. The United States-Canada-Mexico Agreement (USMCA), which replaced NAFTA, does not provide for “marking rules.” Nonetheless, CBP has proposed retaining the NAFTA Marking Rules as the basis for determining the origin of goods imported from Canada and Mexico, as well as for determining the origin of goods from those countries for government procurement purposes under the government procurement provisions of the Trade Agreements Act of 1979. See 19 U.S.C. § 2518.

17. For example, the Harmonized Tariff Schedule (HTS) subheading 3910.00.00 provision for “Silicones in Primary Form” is not further subdivided and covers thousands of discrete products as well as the feedstocks used to make them. A tariff shift rule would not recognize processing of feedstocks into finished products as origin-conferring, even though the final products would have a “name, character or use” distinct from the feedstocks, and be recognized in commerce as distinctly different goods. See 19 U.S.C. § 1202.

18. Many free trade agreements use value-content rules which take into account both the cost of materials and processing operations. Some United States laws, such as the Buy American Act, 41 U.S.C. §§ 8301–8305, which is used to determine the eligibility of certain goods for government procurement, take account of the cost of materials only.

19. See, e.g., Can.–Mex.–U.S. Agreement (USMCA), Art. 4.8 (recognizing the “originating” status of “intermediate materials” produced in the course of manufacturing a final product; 19 C.F.R. § 10.177(a)(2) (dealing with “substantially transformed constituent materials” for purpose of the Generalized System of Preferences.

percent value-content sufficient to confer origin?²⁰ Should the bar be set at 50 percent? Or 75 percent? In many cases, goods that achieve a high value-add through manufacturing still may not be able to satisfy a value-content rule if the rule is based on the appraised value of the article rather than the cost of materials.²¹

The fourth widely used method of determining origin of goods is to tie origin to the performance of specific manufacturing or processing steps, such as the performing of a chemical reaction, the refining of petroleum, or the galvanizing of steel. Such rules generally have the advantage of being objective and predictable, provided there is consensus on the nature of the manufacturing or processing steps specified. As manufacturing has evolved, however, there are problem areas that need to be addressed in the use of these rules, such as how to treat operations such as the programming and loading of firmware and software. These are operations with little or no physical manifestation but are essential nonetheless to the manufacture of so many different products.

The United States has adopted process-specific rules of origin for textile and apparel products, as required by Section 334(a) of the Uruguay Round Agreements Act.²² Regulations implementing these rules are codified at Section 102.21 of the Customs Regulations.²³ While partially couched in tariff-shift terms, the rules ultimately turn on the performance of specific processing operations, such as sewing the principal seams of garments.²⁴ Generally, the rules produce reasonable results with respect to the origin of fabrics and apparel products, which were the principal focus of the legislation. They are less reasonable in the case of non-apparel textile products, which are generally deemed to originate in the country where their constituent fabrics were formed in the “greige” state, with no credit given to value-added manufacturing operations.²⁵

20. Further complicating the use of value-content rules are issues concerning the valuation of intangibles, such as computer firmware and software. Often the production of these intangibles entails thousands of man-hours of code-writing and millions of dollars in cost (often ongoing, as firmware and software suites are updated and improved). Most nations have devised special rules for the valuation of software for duty assessment purposes, but these rules are of little help in assigning a cost to intangibles used in manufacturing.

21. Value-content rules are a staple of free trade agreements (FTAs), with content requirements typically scaled to provide a margin of protection to domestic production. In these cases, the use of value-content as a measure of origin is less objectionable, since issuance of an FTA certification by a company is essentially an invitation to customs authorities to verify the value-content reported.

22. See Pub. L. No. 103-465, 108 Stat. 4809 (1994), codified at 19 U.S.C. § 3592.

23. 19 C.F.R. § 102.21 (2021).

24. See *id.*

25. “Greige” is a term of art, describing woven or knitted fabrics which have not yet been printed or dyed. See 19 C.F.R. §102.21. Thus, for example, a \$200.00 down

Ultimately, the WCO *Work Programme for Non-Preferential Rules* floundered because the negotiators could not agree on any of these four paradigms as the basis for an international harmonized country of origin code. Most countries felt that the paradigm they were using should be the basis for an international code and were unwilling to abandon their current systems.

While the United States has kept “substantial transformation” as its basic rule for determining the non-preferential origin of imported goods, it has flirted with each of the other three paradigms as well. More recently, however, CBP has disregarded controlling judicial precedent and wandered into new ad hoc rules for making origin determinations. These include basing origin on the country of origin of a good’s “essential” component,²⁶ requiring constituent materials to be independently substantially transformed, or predicating origin of a finished product on the country from which the majority of its parts are sourced. These rules disregard most, if not all, of the requirements of the Marrakesh Agreement and have sown chaos among businesses importing goods into the United States.

III. DEVELOPMENT AND APPLICATION OF THE “SUBSTANTIAL TRANSFORMATION” RULE

The substantial transformation rule was largely developed in case law involving the United States’ country of origin marking statute. Section 304(a) of the Tariff Act of 1930²⁷ requires that all goods of foreign origin imported into the United States or their packages be marked permanently, legibly, and in a conspicuous place so as to indicate to the “ultimate purchaser” in the United States the English name of the country of origin. The statute provides in pertinent part:

Sec. 1304. Marking of imported articles and containers

a) Marking of articles

Except as hereinafter provided, every article of foreign origin (or its container, as provided in subsection (b) hereof) imported into the United States shall be marked in a conspicuous place as legibly, indelibly, and permanently as the nature of the

comforter, produced from \$5.00 worth of greige fabric woven in Country A, which was cut and sewn in Country B to make a comforter shell, then sent to Country C for filling with down and closing, would be deemed to be a product of Country A. Anomalous as such an outcome may seem, the textile origin rules were reviewed under the Administrative Procedure Act, and held to be reasonable. *See Pac Fung Feather Co. v. United States*, 111 F.3d 114, 117 (Fed. Cir. 1997). The rules became less controversial after the abolition of quotas on most textile and apparel products.

26. *See, e.g.*, *The Country of Origin of the ViewSonic Chromebox*, NY N309526 (N.Y. CBP Feb. 19, 2020) (Ruling) (“Chromebox” ADP unit said to originate in country where “essential” PCBA is manufactured); *The Country of Origin of a Programmable Power Supply*, NY N308235 (N.Y. CBP Dec. 19, 2019) (Ruling) (power supply deemed to originate where “essence” PCBA manufactured).

27. 19 U.S.C. § 1304(a).

article (or container) will permit in such manner as to indicate to an ultimate purchaser in the United States the English name of the country of origin of the article. The Secretary of the Treasury may by regulations—

Determine the character of words and phrases or abbreviations thereof which shall be acceptable as indicating the country of origin and prescribe any reasonable method of marking, whether by printing, stenciling, stamping, branding, labeling, or by any other reasonable method, and a conspicuous place on the article (or container) where the marking shall appear;

Require the addition of any other words or symbols which may be appropriate to prevent deception or mistake as to the origin of the article or as to the origin of any other article with which such imported article is usually combined subsequent to importation but before delivery to an ultimate purchaser.²⁸

CBP has specifically incorporated the rule of substantial transformation into its marking regulations.²⁹ Historically, courts have taken the position that a good originates, for marking purposes, in the last country where it underwent a substantial transformation prior to being imported into the United States. If an imported article undergoes a substantial transformation after importation into the United States, it is no longer considered a foreign product and need not be marked to show a foreign country of origin.³⁰

The concept of substantial transformation is taken from the United States Supreme Court's decision in *Anheuser-Busch Brewing Ass'n. v. United States*,³¹ which concerned the question of whether

28. See 19 U.S.C. § 1304(a)(3) (authorizing the Secretary of the Treasury to authorize numerous exceptions to country of origin marking requirements, which exceptions are not relevant to the instant discussion).

29. Thus, 19 C.F.R. § 134.1(b) provides:

(b) Country of origin. "Country of origin" means the country of manufacture, production, or growth of any article of foreign origin entering the United States. Further work or material added to an article in another country must effect a substantial transformation in order to render such other country the "country of origin" within the meaning of this part; however, for a good of a NAFTA or USMCA country, the marking rules set forth in part 102 of this chapter (hereinafter referred to as the part 102 Rules) will determine the country of origin.

30. See *United States v. Gibson-Thomsen Co.*, 27 C.C.P.A. 267, 271 (1940).

31. See *generally* *Anheuser-Busch Brewing Ass'n. v. United States*, 207 U.S. 556 (1908).

goods had been “manufactured” into new and different articles for purposes of the duty drawback statute. The Court noted:

Manufacture implies a change, but every change is not manufacture, and yet every change in an article is the result of treatment, labor and manipulation. But something more is necessary, as set forth and illustrated in *Hartranft v. Wiegmann*, 121 U.S. 609. There must be transformation; a new and different article must emerge, “having a distinctive name, character or use.”³²

The substantial transformation test of a change in name, character, or use is well-known in customs law and has been used, with minor variations, to determine the country of origin of goods for marking purposes;³³ to define “manufacturing” for duty drawback purposes;³⁴ to administer preferential tariff programs, such as the Generalized System of Preferences;³⁵ to determine the origin of goods for purposes of voluntary restraint and quota programs;³⁶ to determine the meaning of “manufacture” for purposes of the bonded warehouse statute;³⁷ and to determine whether goods are transformed in countries from which certain federal government procurements are prohibited.³⁸

Courts render substantial transformation determinations on a fact-specific, case-by-case basis. A change in name has generally been considered the least persuasive factor in determining whether a substantial transformation has taken place;³⁹ however, only a change in one of the three specified criteria—*i.e.*, name, character, or use—is required to establish a substantial transformation.⁴⁰

Some Courts have also established “cross-checks” on the *Anheuser-Busch* criteria of name, character, and use, for example, by

32. *Id.* at 562.

33. *See* *Gibson-Thomsen Co.*, 27 C.C.P.A. at 272.

34. *See* *Anheuser-Busch Brewing Ass’n.*, 207 U.S. at 562–63.

35. *See* *Torrington Co. v. United States*, 764 F.2d 1563, 1571 (Fed. Cir. 1985).

36. *See* *Ferrostaal Metals Corp. v. United States*, 11 C.I.T. 470, 472 (1987); *see also* *Superior Wire Inc. v. United States*, 11 C.I.T. 608, 614 (1987).

37. 19 U.S.C. § 1562; *see* *Tropicana Prods., Inc. v. United States*, 16 C.I.T. 155, 160 (1992).

38. 19 U.S.C. § 1862; *see* *Energizer Battery Inc. v. United States*, 190 F. Supp. 3d 1308, 1325 (Ct. Int’l Trade 2016).

39. *See* *Nat’l Juice Prods. Ass’n. v. United States*, 10 C.I.T. 48, 59 (1986).

40. *See* *Koru N. Am. v. United States*, 12 C.I.T. 1120, 1126 (1988). However, in light of the recent decision in *Cyber Power*, it is fair to ask whether a change in “name” is a determinative criterion or one which is subsidiary to the concepts of “character” and “use.” *See* 560 F. Supp. 3d at 1377. In *Cyber Power*, the parties agreed that certain manufacturing operations performed in the Philippines had effected a change in the names of the imported articles, but the court declined to enter summary judgment for the plaintiff, directing the parties to trial on the issues of whether a change in character or use had occurred. *See id.* at 1377–79. No recent decisions have found a “substantial transformation” to arise solely due to a change in name.

considering the cost or value added by specified processes;⁴¹ or considering whether there has been a transformation from a “producer’s good” to a “consumer good.”⁴² As noted in *Tropicana Products*,⁴³ the substantial transformation criteria “cannot be applied indiscriminately in the identical manner across the entire spectrum of statutes for which it is necessary to determine whether merchandise has been ‘manufactured.’”⁴⁴

As the rule has largely evolved through interpretation of the marking statute, we now turn to a consideration of the statutory and regulatory purposes of that statute.

A. *Purpose of the Marking Statute, 19 U.S.C. § 1304(a)*

Section 304(a) of the Tariff Act of 1930⁴⁵ is a disclosure statute designed to prevent deception and confusion in the trade and commerce of the United States. Its purpose was articulated in *United States v. Friedlaender & Co.*:

As we see it, Congress intended that the ultimate purchaser should be able to know by an inspection of the marking on imported goods the country of which the goods is the product. The evident purpose is to mark the goods so that at the time of purchase the ultimate purchaser may, by knowing where the goods were produced, be able to buy or refuse to buy them, if such marking should influence his will.⁴⁶

In *Gibson-Thomsen*, the Court noted the purpose of the marking law to be the prevention of confusion and deception in the “trade and commerce of the United States[,]” and noted that the law seeks to communicate to the ultimate purchaser in the United States the origin of the article he or she is purchasing—not the origin of the parts or materials from which that article was made.⁴⁷

The marking statute’s disclosure requirement is directed at, and anchored to, the “ultimate purchaser” in the United States. The Supreme Court has noted that the marking statute is implemented

41. See, e.g., *Ferrostaal*, 11 C.I.T. at 472; see also *Superior Wire*, 11 C.I.T. at 614; *Uniroyal, Inc. v. United States*, 3 C.I.T. 220, 224 (1982); *United States v. Murray*, 621 F.2d 1163, 1169 (1st. Cir. 1980), cert. denied, 499 U.S. 837 (1980).

42. See *Midwood Indus., Inc. v. United States*, 64 Cust. Ct. 499, 507 (1970), appeal dismissed, 57 C.C.P.A. 141 (1970).

43. 16 C.I.T. at 160.

44. *Tropicana Products Inc. v. United States*, 16 C.I.T. 155 (1992).

45. 19 U.S.C. §1304(a).

46. *United States v. Friedlaender & Co.*, 27 C.C.P.A. 297, 302 (1940).

47. *United States v. Gibson-Thomsen Co.*, 27 C.C.P.A. 267, 272 (1940).

through regulations,⁴⁸ and in this regard, the CBP has promulgated a regulation, 19 C.F.R. § 134.1(d), which provides:

(d) Ultimate purchaser. The “ultimate purchaser” is generally the last person in the United States who will receive the article in the form in which it was imported; however, for a good of a NAFTA [North Atlantic Free Trade Organization] or USMCA [United States-Mexico-Canada Agreement] country, the “ultimate purchaser” is the last person in the United States who purchases the good in the form in which it was imported. It is not feasible to state who will be the “ultimate purchaser” in every circumstance. The following examples may be helpful:

(1) If an imported article will be used in manufacture, the manufacturer may be the “ultimate purchaser” if he subjects the imported article to a process which results in a substantial transformation of the article, even though the process may not result in a new or different article, or for a good of a NAFTA or USMCA country, a process which results in one of the changes prescribed in [part 102 of 19 C.F.R. Chapter I] as effecting a change in the article’s country of origin.

(2) If the manufacturing process is merely a minor one which leaves the identity of the imported article intact, the consumer or user of the article, who obtains the article after the processing, will be regarded as the “ultimate purchaser.” With respect to a good of a NAFTA or USMCA country, if the manufacturing process does not result in one of the changes prescribed in [part 102 of 19 C.F.R. Chapter I] as effecting a change in the article’s country of origin, the consumer who purchases the article after processing will be regarded as the ultimate purchaser.

(3) If an article is to be sold at retail in its imported form, the purchaser at retail is the “ultimate purchaser.”

(4) If the imported article is distributed as a gift the recipient is the “ultimate purchaser”, unless the good is a good of a NAFTA or USMCA country. In that case, the purchaser of the gift is the ultimate purchaser.⁴⁹

Consumer disclosure is the purpose behind the marking law’s existence. But this purpose is ill-served by recent administrative and judicial rulings that disregard final stages of assembly or other manufacture and define the origin of a finished product according to the origin of one or more of its parts. Consumer disclosure is equally undermined by rulings that posit that some unspecified quantum of “sufficient” working or manufacturing is required to confer origin. This

48. See *United States v. Mersky*, 361 U.S. 431, 437–38 (1960).

49. 19 C.F.R. § 134.1(d) (2021).

was recognized in *United States v. Gibson-Thomsen Co. Inc.*,⁵⁰ the 1940 appellate decision that first applied the “substantial transformation” rule to the marking statute. In *Gibson-Thomsen*, the plaintiff imported wooden blocks from Japan to be used in the manufacture of hairbrushes and toothbrushes in the United States.⁵¹ In their condition as imported, these blocks bore a “Japan” country of origin marking.⁵² However, that marking was obliterated when the blocks were drilled with holes and combined with bristles to produce new articles of commerce—*i.e.*, hairbrushes and toothbrushes—which were offered for sale.⁵³ The Court of Customs and Patent Appeals⁵⁴ held that the marking law did not require communication of the country of origin of the brushes’ components.⁵⁵

We find nothing in the statute nor in its legislative history to warrant a holding that the Congress intended to require that an imported article, which is to be used in the United States as material in the manufacture of a new article having a new name, character, and use, and which, when so used, becomes an integral part of the new article, be so marked as to indicate to the retail purchaser of the new article that such imported article or material was produced in a foreign country.

Thus, disclosure of the origin of materials used to produce an imported article is not required by 19 U.S.C. § 1304(a).

Where Congress wishes to direct a merchant to identify the country of origin of components or materials used in the production of an article, it knows how to craft legislation for that purpose.⁵⁶ No such requirement exists in 19 U.S.C. § 1304(a), suggesting that CBP’s recent focus on “essential character” components or materials is incorrect. Rather, the marking law requires the importer to identify

50. 27 C.C.P.A. 267 (1940).

51. *Id.*

52. *Id.*

53. *Id.* at 269.

54. Originally created in 1909, “the Court of Customs and Patent Appeals had jurisdiction over all decisions from the U.S. Customs Court (USCC) (renamed in 1980 the [CIT]) and decisions by the Patent and Trademark Office (PTO) until Congress transferred its jurisdiction to the U.S. Court of Appeals for Federal Claims in 1982.” *Court of Customs and Patent Appeals*, LEGAL INFO. INST., (https://www.law.cornell.edu/wex/court_of_customs_and_patent_appeals#:~:text=The%20Court%20of%20Customs%20and,Congress%20transferred%20its%20jurisdiction%20to) (last accessed Aug. 13, 2023).

55. *Id.* at 273.

56. *See, e.g.*, The American Automobile Labeling Act (AALA), 49 U.S.C. § 32304; *see also* 49 C.F.R. Part 583; Section 13(p) of the Securities Exchange Act of 1934, 15 U.S.C. 78a, et seq., as amended by Pub. L. No. 111-203, § 1502 (2010) (requiring publicly traded companies to report through the SEC certain “conflict minerals” used or included in imported goods).

the country of origin of the good “which enters the commerce of the United States”⁵⁷ en route to the “ultimate purchaser,” defined by regulation as at 19 C.F.R. § 134.1(d) as the “purchaser at retail.”⁵⁸ The focus is on the article being sold to a consumer or purchaser in the United States,⁵⁹ not the origin of its components.

For decades, it has been clear that when an article is produced in two or more foreign countries, the country of origin of the good for purposes of the marking statute is the last country where it undergoes a “substantial transformation” prior to being imported into the United States. The Court of Customs and Patent Appeals noted in *United States v. Friedlaender & Co.* that:

It is true that article 528 (c) of the Customs Regulations of 1937, as amended by T.D. 49658, states that “The country of origin means the country of manufacture or production.” It also stated that “Further work or material added to an article in another country must effect a substantial transformation in order to render such other country the country of origin’ within the meaning of this article.” When the entire paragraph is read it is clear that the statement contained in the first sentence was made in view of the decisions of this court and the Court of Customs and Patent Appeals relating to merchandise that had been manufactured in one country and transported to another country for further work or complete finishing, and that it had no reference to a change of jurisdiction of the place of manufacture, or production, or origin.⁶⁰

The rule remains true today and is codified in 19 U.S.C. § 134.1(b):

(b) Country of origin. “Country of origin” means the country of manufacture, production, or growth of any article of foreign origin entering the United States. Further work or material added to an article in another country must effect a substantial transformation in order to render such other

57. *A.N. Deringer, Inc. v. United States*, 51 Cust. Ct. 21, 26 (1963). In *A.N. Deringer*, the court, speaking of the responsibilities imposed on importers of merchandise, indicated that “[o]ne such responsibility, and an important one, is to see that imported merchandise is properly marked before it enters the commerce of the United States.” *Id.* at 26.

58. The court noted that “[t]he marking statute was intended in part ‘to facilitate consumer purchasing decisions’ by marking goods so that informed and discriminating buyers could decide either ‘to buy or refuse to buy a [product] if such markings should influence their will’” *Contessa Food Prods. v. Lockpur Fish Processing Co.*, 2001 U.S. Dist. LEXIS 25999 (C.D. Cal. 2001) (citing *Nat’l Juice Prods. Ass’n. v. United States*, 10 C.I.T. 48, 58 (1986)).

59. See *M.B.I. Merchandise Indus., Inc., v. United States*, 16 C.I.T. 495, 503 (1992).

60. 27 C.C.P.A. 290, 303 (1940).

country the “country of origin” within the meaning of this part; however, for a good of a NAFTA or USMCA country, the marking rules set forth in part 102 of [19 C.F.R. Chapter I] . . . will determine the country of origin.⁶¹

B. *The “Name, Character, and Use” Factors*

The substantial transformation test focuses on three factors: whether the good that emerges from a manufacturing process has a new name, character, or use different from its constituent materials and components. US courts have indicated that a change in any one of the three parameters will effect a “substantial transformation.”⁶² While a change in name is typically viewed as the weakest indicator of a substantial transformation, such a change does indicate that the imported articles are “different articles of commerce” in a commercial sense and in a tariff sense.⁶³ A change in name also has evidentiary weight. In *Sassy, Inc. v. United States*,⁶⁴ the court indicated that the various components of a pacifier (*e.g.*, plug, nipple shield) had different names from the finished article (*i.e.*, the pacifier). Tariff Acts are presumed to be written in the language of commerce—which is presumed to comport with the common meaning of terms.⁶⁵

The reference to “name” also injects an element of common sense into origin determinations. A retail purchaser heading to The Home Depot, anticipating the purchase of a ready-to-use electrical appliance, would expect to find the finished, functional retail article, rather than a collection of parts described in the bills of materials generated before assembly of the consumer product commences. As the United States Court of International Trade has previously noted, “[O]n a practical level a finished flashlight does have a different name, character, and use than a pile of 50 unassembled constituent components.”⁶⁶

Recently, in *Cyber Power Sys. (USA) Inc. v. United States*,⁶⁷ the court, in denying the parties’ cross-motions for summary judgment, noted that there was no dispute that, as a result of manufacturing operations performed in the Philippines, the imported products had acquired new “names” distinct from the names of any of their components. However, the court indicated that this was not enough to

61. 19 U.S.C. § 134.1(b).

62. *Koru N. Am. v. United States*, 12 C.I.T. 1120, 1126 (1988).

63. *See* *Midwood Indus., Inc. v. United States*, 64 Cust. Ct. 499, 507–08 (1970); *see also* *United States v. Int’l Paint Co., Inc.*, 35 C.C.P.A. 87, 94 (1948).

64. *Sassy, Inc. v. United States*, 24 C.I.T. 700, 704–05 (2000).

65. *See* *Swan v. Arthur*, 103 U.S. 597, 598 (1880); *Hartmann Trunk Co. v. United States*, 27 C.C.P.A. 254, 257 (1940).

66. *Cyber Power Sys. (USA) Inc. v. United States*, 471 F. Supp. 3d 1371, 1377 (Ct. Int’l Trade 2020).

67. *Cyber Power Sys. (USA) Inc. v. United States*, 560 F. Supp. 3d 1347, 1357 (Ct. Int’l Tr. 2022).

award summary judgment to the plaintiff and that the change in name needed to be considered in conjunction with trial evidence concerning changes in character and use. In light of this decision, one might ask whether the name, character, or use standard is being reduced to one of simply a change in *character* or *use*.⁶⁸ However, other courts have placed significant reliance on changes in name. Thus, for instance, in *Pleasure-Way Industries, Inc. v. United States*,⁶⁹ the Federal Circuit denied subheading 9802.00.50, Harmonized Tariff Schedule of the United States, “repair and alteration” treatment to certain panel vans exported to Canada for alteration operations, largely because, as the result of the operations, they acquired a new name (“motorhomes”).⁷⁰

A change in name is a relatively objective factor in the “substantial transformation” analysis, as it is susceptible to the receipt of definitive evidence from persons engaged in commerce.

The next factor in the substantial transformation trilogy is a change in character. “Character” has been defined as “one of the essentials of structure, form materials or function that usually make up and usually distinguish the individual.”⁷¹ Even when component parts are visually identifiable in the finished article, the finished article will likely have a character and function different from the parts.⁷²

In evaluating character in substantial transformation determinations, courts often distinguish between substantial transformations based on assembly of components and those involving treatment of a single material.⁷³ Changes in character are also denominated by changes in use, and the two criteria are closely related.⁷⁴

Changes in character can also be evaluated by examining whether something evolves from a simple undifferentiated material to something with a defined use or range of uses,⁷⁵ and whether it has been transformed from a producer’s good to a consumer good.⁷⁶

Of the three specified substantial transformation factors, character is perhaps the least objective. Courts tend to lump it in with

68. Concern with reliance on the “name” factor is, to some extent, driven by concerns that merchants might try to make origin claims based on arbitrary relabeling of products. However, changes in name grounded in the common and commercial meaning of terms, should be a relatively strong indicator of a new origin.

69. *Pleasure-Way Indus. v. United States*, 878 F.3d 1348, 1349 (Fed. Cir. 2018).

70. *Id.* at 1353.

71. *Sassy, Inc. v. United States*, 24 C.I.T. 700, 704 (2000) (citing *Nat’l Hand Tool Corp. v. United States*, 16 C.I.T. 308, 311, *aff’d*, 989 F.2d 1201 (Fed. Cir. 1983); *see also* Webster’s Third New Int’l Dictionary (3d ed. 1981).

72. *Sassy, Inc.*, 24 C.I.T. at 704–05.

73. *See Texas Instruments Co. v. United States*, 69 C.C.P.A. 151, 157 (1982); *see also Adolphe Schwob, Inc. v. United States*, 62 Treas. Dec. 248 (DATE); *United States v. Adolphe Schwob, Inc.*, T.D. 45908 (1932), *aff’d*, 21 C.C.P.A. 116 (1933).

74. *See Ferrostaal Metals Corp., United States*, 11 C.I.T. 470, 476 (1987).

75. *See Torrington Co. v. United States*, 764 F.2d at 1568.

76. *See SDI Techs Inc. v. United States*, 977 F. Supp. 1235, 1240 (Ct. Int’l Tr. 1997); *see also Midwood Indus. Inc. v. United States*, 64 Cust. Ct. 499, 507 (1970).

the “change in use” criterion and consider the two together. However, factors such as whether a good has been transformed from a material to a finished good, from a producer good to a consumer good, and whether it is directed at a new “ultimate purchaser” can all assist in the analysis.

Operations involving intangibles, such as programming an electronic device with code, have been recognized by the Customs courts for decades as being a significant operation in a substantial transformation context, changing the character of a good. In *Data General Corp v. United States*⁷⁷ the Court of International Trade held that using firmware to program a PROM (programmable read-only memory) into a ROM (read-only memory) significantly changed the character of the article, noting:

The Court is not convinced that programming a PROM is a mere modifying or finishing step. The defendant underestimates the time, expense and expertise required to program a PROM . . . including the development of the pattern and production of the master PROM, which required “much time and expertise.”⁷⁸

The court also noted that once a PROM had been converted to a ROM, the ROM was no longer programmable.⁷⁹

It is relatively simple to discern when an article emerging from a manufacturing or production process has a new use. The courts have held that a change in utility indicates that a substantial transformation” has occurred.⁸⁰ Furthermore, the character and use factors in the substantial transformation test are closely related.⁸¹

The change in use factor is a strong one in determining whether an operation effects a substantial transformation. Imparting utility to an article is a good indication that a new article has been created. It is a factor on which objective, commercially based testimony can be taken and judicially evaluated. The imparting of a new use also meshes with the threshold requirement of substantial transformation that a “new and different article of commerce” be created.⁸²

77. 4 C.I.T. 182, 186 (1982).

78. *Id.* at 185.

79. *See id.* at 186.

80. *See, e.g., Texas Instruments Inc. v. United States*, 69 C.C.P.A. 151, 156 (1982); *Ferrostaal Metals Corp. v. United States*, 11 C.I.T. 470, 478 (1998).

81. *Belcrest Linens v. United States*, 741 F.2d 1368, 1372 (Fed. Cir. 1984).

82. That being said, technological progress has created situations which render a change in “use” problematic to assess in certain instances. For example, if an article is completely assembled into final form in Country A, but only becomes functional when firmware is loaded into the device in Country B, should the firmware loading be deemed sufficient to create a new article having a new use? These are issues which had not arisen

C. *What the “Substantial Transformation” Test is Not*

All too frequently, Customs rulings pay lip service to the substantial transformation test and then proceed to utilize factors other than name, character, or use in rendering origin determinations. Use of such factors does not follow from the substantial transformation test; rather, their use undermines and deforms it.

“Sufficient” processing. For instance, the substantial transformation test does not require some minimum quantum of manufacturing or assembly to be performed. The test is not rooted in engineering principles but rather commercial ones. Its first inquiry is whether a particular operation produces a new and different article of commerce. This is a commercial test, rather than a quantitative one. Thus, for example, the manufacturing operations in the *Gibson-Thomsen* case were not terribly sophisticated; they consisted of drilling holes into brush blocks and inserting bristles to create hairbrushes and toothbrushes. But they unquestionably resulted in creation of a new and different “article of commerce”—a salable consumer good with a character and use not possessed by any of its constituent components. The notion that some level of “sufficient” working is necessary to achieve a substantial transformation is subjective and, in many cases, (improperly) driven by trade policy considerations.

Recently in *Cyber Power Systems (USA) Inc. v. United States*,⁸³ the United States Court of International Trade rejected the disjunctive approach to substantial transformation set out in *Energizer Battery Inc. v. United States*,⁸⁴ noting that the formulation was “somewhat counterintuitive, because on a practical level a finished flashlight does have a different name, character, and use than a pile of fifty unassembled constituent components.”⁸⁵ The court further noted that the “component-by-component approach to the substantial transformation test would seem to make it practically insurmountable for subsequent-country, pre-determined assembly to ever constitute further work/substantial transformation of an article.”⁸⁶ While acknowledging that the *Energizer* court held that “sufficiently complex” assembly could effect a desired change of origin, the court noted that “[e]xactly what constitutes ‘sufficiently complex’ is a bit of a mystery though.”⁸⁷

when seminal cases such as *United States v. Gibson-Thomsen Inc.*, had been decided. As discussed earlier in this Article, these issues may be best dealt with by rulemaking.

83. 560 F. Supp. 3d 1347, 1355 (Ct. Int'l Tr. 2022).

84. 190 F. Supp. 3d 1308, 1324 (Ct. Int'l Tr. 2016).

85. *Id.* at 1316.

86. *Id.* at 1319.

87. *Id.* at 1323.

It may also be noted that, while the CBP has adopted a regulation defining non-origin-conferring “simple assembly,”⁸⁸ CBP frequently ignores it in ruling on particular situations and more expansively defines operations as “simple” assembly, insufficient to confer origin.⁸⁹

The problem with using a standard of “sufficient” assembly or processing is that it is wholly subjective and provides no guidance to businesspersons. The view of what constitutes sufficient manufacturing varies from one customs official to the next, as these officials are typically not trained in engineering or manufacturing procedures. While it might be suitable for the CBP to issue regulations addressing the sufficiency of manufacturing operations in discrete scenarios, an open-ended test of “sufficient” processing is meaningless.

Change in Tariff Classification. While origin rules predicated on a change in classification are a staple of free trade agreements, they do

88. Thus, 19 C.F.R. §102.1(p) provides:

(p) Simple assembly. “Simple assembly” means the fitting together of five or fewer parts all of which are foreign (excluding fasteners such as screws, bolts, etc.) by bolting, gluing, soldering, sewing or by other means without more than minor processing.

In turn, “minor processing” is defined at 19 C.F.R. 102.1(n) as follows:

- (1) Mere dilution with water or another substance that does not materially alter the characteristics of the good;
- (2) Cleaning, including removal of rust, grease, paint, or other coatings;
- (3) Application of preservative or decorative coatings, including lubricants, protective encapsulation, preservative or decorative paint, or metallic coatings;
- (4) Trimming, filing or cutting off small amounts of excess materials;
- (5) Unloading, reloading or any other operation necessary to maintain the good in good condition;
- (6) Putting up in measured doses, packing, repacking, packaging, repackaging;
- (7) Testing, marking, sorting, or grading;
- (8) Ornamental or finishing operations incidental to textile good production designed to enhance the marketing appeal or the ease of care of the product, such as dyeing and printing, embroidery and appliques, pleating, hemstitching, stone or acid washing, permanent pressing, or the attachment of accessories notions, findings and trimmings; or
- (9) Repairs and alterations, washing, laundering, or sterilizing.

89. For instance, in the 2022 case of *Cyber Power Systems (USA) Inc. v. United States*, CBP took the position that the assembly of dozens of components to create uninterruptible power supplies and surge voltage protectors did not constitute a “substantial transformation.” See 560 F. Supp. 3d 1347, 1353 (Ct. Int’l Tr. 2022).

not form a sensible basis for establishing non-preferential rules of origin. As noted *supra*, the Harmonized Tariff Schedule was not crafted as a basis for determining origin of goods. Some provisions cover a broad swath of articles, while others are highly specific. In *CPC International Inc., v. United States*,⁹⁰ the Court of International Trade, addressing the NAFTA Marking Rules,⁹¹ rejected the notion that those tariff-shift-based rules represented a codification of the “substantial transformation” rule:

However, it is quite apparent to the court that the *Gibson-Thomsen* substantial transformation test of an ultimate purchaser under § 1304(a) is undisputedly [sic] so methodologically distinct from the change in classification format of the Marking Rules applied under § 134.35(b) as to make a mockery of the use of the term “codification.” In any event, whether or not the term “codified” the apt term to apply to the affect [sic] of the tariff shift rules on the *Gibson-Thomsen* test, Congress expressly intended under 19 U.S.C. § 3312(a) to avoid a conflicting application of NAFTA or the Act with existing United States law, except where the Act expressly amends or modifies the existing law.⁹²

While the courts ultimately upheld the legality of the NAFTA Marking Rules,⁹³ this led to a “two-track” scheme of origin determination—one for Mexico and Canada, the other for the rest of the world, using the “substantial transformation” test.⁹⁴

In addition, tariff-shift-based origin rules are often accompanied by regulations allowing for the use of accounting methods to account for fungible materials or finished goods commingled in inventory.⁹⁵ This often leads to “disconnects,” where a product or its package may be labeled as having a particular country of origin, while the merchandise actually being delivered has a different origin. This legal

90. 20 C.I.T. 806, 820 (1996).

91. 19 C.F.R. § 102.20 (2021).

92. 20 C.I.T. at 819.

93. See *Bestfoods v. United States*, 260 F.3d 1320, 1323 (Fed. Cir. 2001).

94. While NAFTA has been repealed and replaced with the United States-Mexico-Canada Agreement (USMCA), which does not provide for “marking rules, CBP has proposed retaining those rules, and using them to determine the country of origin, for marking purposes, of goods imported into the United States from Canada and Mexico. CBP has also, bizarrely, proposed using them as the basis for determining country of origin, for government procurement purposes, of goods produced in Canada and Mexico. This latter proposal seems squarely at odds with the Trade Agreements Act rules on government procurement, as well as with 19 U.S.C. §2518(4)(B), which expressly requires the use of the “substantial transformation” rule of change in name, character and use in determining origin for TAA procurement purposes. CBP’s proposal, which is under consideration, is unwise, and the United States would better be served by joining Canada and Mexico in jettisoning the NAFTA Marking Rules altogether.

95. See, e.g., 19 C.F.R. § 102.12 (2023).

fiction undercuts the consumer disclosure purposes of the marking statute.⁹⁶

In the “substantial transformation” context, it has been long established that changes in tariff classification effected by a particular manufacturing operation are to be noted—but are in no way controlling when determining origin.⁹⁷

“*Essence*” or “*Essential Character*.” Perhaps the most prevalent—not to mention illogical and destructive—trend in determining country of origin has been CBP’s recent trend of determining the origin of a finished article according to the country of origin of its “essential” or “essential character” component. As explained years ago in *Gibson-Thomsen*, the marking statute requires disclosure of the country where *the imported product* was made, not its component materials.⁹⁸ Moreover, the courts have pointed out that the “essence” test has no statutory basis and has not been judicially endorsed. In *Ferrostaal Metals Corp. v. United States*, the Federal Circuit held that it:

[Found] no basis in caselaw for the essence test offered by defendant. Defendant cites no case where the name, character and use criteria were satisfied, yet no substantial transformation was found to have occurred. The name, character and use test is entitled to continued adherence in view of its affirmance in recent opinions by our appellate court. *See Torrington Co. v. United States*, 764 F.2d 1563 (Fed.Cir.1985); *Belcrest Linens v. United States*, 741 F.2d 1368 (Fed.Cir.1984).⁹⁹

Despite the lack of statutory or case law support for this rule, the CBP has aggressively used the rule to determine the origin of imported goods in recent years. The agency is suspected of “weaponizing” this rule to maximize collection of retaliatory tariffs imposed on Chinese-origin goods under Section 301 of the Trade Act of 1974.¹⁰⁰ This trend was evident in *Cyber Power Systems (USA) Inc. v. United States*,

96. In an increasingly globalized society, many ask whether consumers in fact care about the country of origin of goods that they purchase. *See* Nada Knezevic, Slavka Grbavac & Marina Palfi, *Country of Origin - The Importance for Consumers*, 14 EURO. FOOD & FEED L. REV. 528 (2019); Samantha Kumara & Kang Canhua, *Perceptions of Country of Origin: An approach to identifying expectations of foreign products*, 17 J. BRAND MGMT. 343 (2015). Undoubtedly, there are some products for which consumers are indifferent about origin, and others for which origin plays a major role in consumer preferences. Ultimately, however, the point is moot, as Congress, through enacting 19 U.S.C. § 1304, has determined that origin does matter. That being said, the United States remains one of the few countries to require origin disclosures on all foreign goods.

97. *Rolland Freres Inc. v. United States*, 23 C.C.P.A. 81, 89 (1935).

98. 27 C.C.P.A. 267, 273 (1940).

99. 11 C.I.T. 470, 474 (1987).

100. 19 U.S.C. § 2411.

involving a company that switched manufacturing of certain electrical appliances from a plant in China to a newly established plant in the Philippines. Despite the fact that goods were assembled in the Philippines (albeit from predominantly Chinese parts), the CBP sought to require the importer to mark the products as “Made in China” (and assessed them with Section 301 tariffs), asserting that Chinese-origin printed circuit board assemblies (PCBAs) imparted the essence of the finished devices (even though those PCBAs could not perform the devices’ function). The United States Court of International Trade noted that the CBP’s position was contrary to the policy undergirding the Section 301 tariffs, noting:

Furthermore, the purpose of the imposition of the Section 301 tariffs was to promote a change in the “government of China’s acts, policies and practices related to technology transfer, intellectual property and innovation.” See Pl. ’s Reply at 20 (citing Notice of Action and Request for Public Comment Concerning Proposed Determination of Action Pursuant to Section 301: China’s Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation, 83 Fed. Reg. 28,711 (U.S.T.R. June 20, 2018)). Additionally, the Section 301 tariffs were intended to encourage a partial de-coupling of China’s economy from that of the United States, by discouraging investment in, and trade with, China. See *id.*¹⁰¹

The court then noted that the plaintiff’s decision to open a new plant in the Philippines appeared to be an effort to conform to the government’s “de-coupling policy”:

Here, Plaintiff, a Taiwanese company, appears to have in fact de-coupled from China, moving some of its production from China to the facility established in the Philippines in 2018, when the Section 301 tariffs were first imposed. *Id.* Plaintiff emphasizes that it “moved significant capital equipment from China to the Philippines, expanding and integrating its production with the establishment of the Phisonic facility to manufacture PCBAs, and using Philippine labor instead of Chinese labor (all the foregoing at significantly higher cost).” *Id.* Plaintiff persuasively argues that “[d]isregarding this investment, the extensive manufacturing operations being conducted in the Philippines and the creation of new articles of commerce in the Philippines, and focusing solely on the source of parts, rather than the place where the finished

101. *Cyber Power Sys. (USA) Inc. v. United States*, 560 F. Supp. 3d 1347, 1352 (Ct. Int’l Trade 2022).

article is produced, sets the Section 301 policy on its ear, and would produce enormous trade distortions.” *Id.*¹⁰²

Ultimately, the court concluded that disclosure of the country of origin of the product’s components was not required by the marking law or the legislative policy undergirding it:

In consideration of the above, the court does not agree with Defendant that the purpose of the marking statute is to inform the consumer about the country-of-origin as to the component parts of the merchandise. *See U.S. Customs & Border Protection, Marking of Country of Origin on U.S. Imports, Informed Compliance Publication, Pub. No. 1150-0620* (non-binding guidance stating, “What is the purpose of marking? To inform the ultimate purchaser in the United States of the country in which the imported article was made.”). The court also does not agree with Defendant that the purpose of the Section 301 tariffs imposed on imports from China would be frustrated by concluding that goods with components made in China that are assembled, connected, tested, and finished in the Philippines are made in the Philippines for country-of-origin marking purposes. To the contrary, Cyber Power’s deliberate de-coupling from China, and its development of Philippine facilities used to make the subject merchandise, appears to be precisely in line with the intended consequences of the Section 301 tariffs. Given this background and understanding of the underlying statutory provisions, the court turns to the parties’ arguments as to whether the Chinese-origin components are “substantially transformed” by Plaintiff’s Philippine operations such that the country-of-origin of the subject merchandise should be for purposes of applying the marking statute and assessing the applicability of Section 301 duties.¹⁰³

Use of origin rules to further trade policy is also contrary to the non-binding principles of the WTO’s Marrakesh Agreement, which prohibits the use of origin rules to drive trade objectives.

The essence test also suffers from being subjective and arbitrary. What seems to be the essence of an article to one observer may not be the essence in the eyes of another. Ultimately, essence is an abstract concept. It is “the intrinsic nature or indispensable quality of something, especially something abstract, that determines its

102. *Id.*

103. *Id.* at 1352–53.

character.”¹⁰⁴ The Merriam-Webster Dictionary offers so many alternate definitions of the term as to make it impossible to achieve predictability if essence is the test for origin.¹⁰⁵ If the concept of “essence” is derived from the concept of the “essential character” component or element, as used for classifying mixtures and composite goods under the Harmonized Tariff Schedule, it becomes no more clear. The Explanatory Notes to Harmonized Tariff Schedule Heading 3(b) provide that the “essential character” component of a good may be determined by “the nature of the material or component, its bulk, quantity, weight or value, or by the role of a constituent material in relation to the use of the goods.”¹⁰⁶ Reluctantly used in classification matters, the rule is useless in country of origin determinations. A businessperson might determine the essential component of an article based on the role of that material in relation to the use of the goods. A Customs official might determine that the “essential component” is the one having the greatest cost or bulk. A merchant might seek a ruling on the issue, but the CBP’s response would be a matter of opinion rather than a construction of law.

While dozens of examples might be offered, the senselessness of the essence test is best depicted by *Customs Headquarters Ruling H287548 of March 23, 2018*, which involved the origin, for government procurement purposes, of a printer consisting of 1,100 discrete parts originating in Japan, the Philippines, China, and Vietnam, which were assembled into eight discrete modules that were put together in the United States to form the finished printer. CBP determined that the operations performed in the United States did not effect a substantial

104. *Essence*, DICTIONARY.COM, <https://www.dictionary.com/browse/essence> [<https://perma.cc/KCZ3-K22U>] (archived July 21, 2023).

105. Merriam-Webster offers the following definitions:

1a: the permanent as contrasted with the accidental element of being

b: the individual, real, or ultimate nature of a thing especially as opposed to its existence
[a painting that captures the *essence* of the land]

c: the properties or attributes by means of which something can be placed in its proper class or identified as being what it is;

2: the most significant element, quality, or aspect of a thing or person
[the *essence* of the issue]

3: one that possesses or exhibits a quality in abundance as if in concentrated form
[she was the *essence* of punctuality]

Essence, MERRIAM-WEBSTER, <https://www.merriam-webster.com/dictionary/essence> [<https://perma.cc/73T4-TEYS>] (archived July 21, 2023).

106. See CBP, Explanatory Note VIII to General Rule of Interpretation 3(b) of the Harmonized System Convention (May 2004), https://www.cbp.gov/sites/default/files/documents/icp017r2_3.pdf [<https://perma.cc/B7S5-V4HH>] (archived July 21, 2023).

transformation, notwithstanding several prior rulings which had credited similar operations. Relying on the disjunctive test of origin set out in the *Energizer Battery* case,¹⁰⁷ CBP ruled:

Once the Vietnamese subassemblies and the Japanese-origin PCB are imported into the United States, these 10 subassemblies are soldered/wired together, and programmed with the Japanese-origin firmware. All of these processes, including the testing of the finished printer (which accounts for half of the time of the printer's manufacture), are concluded in just 40 minutes. The manufacturing processes of these subassemblies in the United States do not rise to the level of complex processes necessary for a substantial transformation to occur. In fact, the end-use of the imported and fully assembled subassemblies is already pre-determined at the time of importation.¹⁰⁸

Thus, in the first instance, CBP declines to find United States origin based on the disjunctive test of *Energizer*, and the amorphous non-standard of “complex processes necessary for a substantial transformation.” But then, CBP proceeds to apply the essence test to make a truly remarkable origin determination:

The main PCB assembly (consisting of approximately 1,028 components) and the firmware, produced in Japan, a TAA-designated country, account for a significant percentage of the total subassembly cost. Together, the firmware and the main PCB, which serve major functions and are high in value, constitute the essential character of the printers.¹⁰⁹

Thus, CBP proceeded to determine that, for procurement purposes, the printers were products of Japan—even though nothing that could remotely be termed a “printer” had ever existed in Japan. This cannot possibly have been the intent of Congress, and surely is not consistent with the substantial transformation test required to be applied in TAA procurement rulings.¹¹⁰ The ruling is a prime example of how the CBP's use of an essence test, or a “sufficiently complex processing” test can become unmoored from commercial reality.

107. *Energizer Battery Inc. v. United States*, 190 F. Supp. 3d 1308, 1319 (Ct. Int'l Trade 2016).

108. U.S. Government Procurement; Country of Origin of Monochrome Laser Printers and Replacement Toner Cartridges, HQ H287548 (CBP Mar. 23, 2018), https://www.customsmobile.com/rulings/docview?doc_id=H287548, [https://perma.cc/54T3-968N] (archived July 21, 2023) (internal citations omitted).

109. *See id.*

110. *See* 19 U.S.C. § 2518.

It is some consolation that the Federal Circuit, in the wake of the *Energizer* decision, ruled that CBP rulings on origin in the government procurement sphere are not binding on procuring agencies.¹¹¹

Quite apart from its subjective nature, the essence test would distort trade statistics, which governments use to identify trade flows, surpluses and deficits, and to manage various trade programs, such as the Generalized System of Preferences. Assume a product assembled in Country B and imported into the United States has a value of \$100, but Customs defines it as a product of Country A, based on the presence of a \$15 “essential character” component originating in Country A. United States trade statistics would show a \$100 import from Country A, when in fact only 15 percent of that value is Country A content. As varying interpretations of the essence test are brought to bear, the origin of a product is no longer the last country where the good underwent a substantial transformation, and import statistics become somewhat meaningless in measuring accurate trade flows. Lacking legal basis and practical or commercial utility, the essence test for defining origin should be jettisoned.

The United States Court of International Trade recently dealt the essence test a significant blow in its post-trial decision in *Cyber Power Systems (USA) Inc. v. United States*.¹¹² Following a lengthy trial, the court determined that uninterruptible power supplies manufactured in the Philippines from predominantly Chinese-origin components had undergone a substantial transformation, resulting in articles of Philippine origin. In so ruling, the court emphatically rejected Customs’ reliance on an essence or essential character test as well as on the disjunctive test of origin set out in *Energizer Battery*.¹¹³

The court reiterates its prior rejection of two potential alternatives to the substantial transformation test of name, character, or use: first, an “essence-based” approach that would look only to whether the essential or critical component of a product had been transformed; and second, an approach that would per se decide whether substantial transformation had occurred on a component-by-component basis. See [*Cyber Power Systems (USA) Inc. v. United States*, 471 F. Supp. 3d 1347,] 1354 (“The court agrees with Plaintiff that Defendant’s proposed focus on the PCBA and the application of an ‘essence’ or ‘critical component’ test here is without merit. The Government’s suggestion to focus solely on the PCBA components of the subject merchandise may well undermine the objective of the “substantial transformation” test, namely to focus on a change in name, character, or use.”); *id.* (“While

111. *Acetris Health, LLC v. United States*, 949 F.3d 719, 730 (Fed. Cir. 2020).

112. *Cyber Power Sys. (USA) Inc. v. United States*, 622 F. Supp. 3d 1397, 1411–1412 (Ct. Int’l Trade 2023), *reconsideration denied*, No. 20-00124, 2023 WL 3479424 (Ct. Int’l Trade May 16, 2023).

113. *Id.*

the intended use of components may provide some insight as to whether the assembly of those components into the finished merchandise accomplishes a change in use that indicates a ‘substantial transformation,’ such a consideration is but one of many for the court to consider as part of the ‘totality of the evidence.’” (citation omitted). The Government’s approach does not promote uniformity, consistency, and predictability in the application of the substantial transformation test. Consequently, the court does not read the prior caselaw on that test as having altered the fundamental requirements of “name, character, or use” by narrowing it to an essence- or component-based interpretation.¹¹⁴

The Court of International Trade thus upheld the more than eighty-year-old test of substantial transformation as applied to country of origin marking decisions since the 1940 decision in *United States v. Gibson-Thomsen Co. Inc.*¹¹⁵ Whether Customs will follow the decision or continue its experiments with the essence, essential component, and disjunctive tests of origin remains to be seen.

D. *Shortcomings of “Substantial Transformation”: the Rise of Intangibles*

While the substantial transformation test remains the most commercially realistic test for determining country of origin, modern manufacturing processes present some challenges not envisioned when the *Gibson-Thomsen* case was decided in 1940. Chief among these is the rise of “intangibles,” such as software and firmware, in manufacture of a wide range of electronic and electrical goods.

Consider a situation where an electronic device is physically manufactured entirely in Country A, and, in its condition as imported into Country B, is incapable of performing any of its intended functions. The device’s functionality is enabled in Country B, where it is programmed with software and firmware that enable it to function. Unquestionably, the operations performed in Country B—while non-physical and taking a short time to complete—impart a new use to the article. This would seem to satisfy the use criterion of the substantial transformation test, as set out in *Gibson-Thomsen* and its progeny. But does the software programming in Country B result in the creation of a “new and different article of commerce”?

Viscerally, the initial response might be to say “no”—the software programming effects no physical change in the article produced in Country A. On the other hand, the costs of writing software and

114. *Cyber Power Sys.*, 622 F. Supp. 3d at 1411.

115. 27 C.C.P.A. 267 (1940).

firmware code are substantial—in some cases, they might exceed the cost of producing the physical article, and might represent continuing costs, as software and firmware suites are updated and uploaded into operating devices. The programming of a device with these intangibles to make it functional is much more complex, permanent, and important than, say, activating a non-functional electrical article through the installation of batteries.

“Living in the material world” might be a short-sighted way to view imported products in an age when many formerly physical goods have evolved to intangible applications. A good example would be the pocket or office calculator, initially conceived as a physical appliance—but which in most cases is now a software “app” on an electronic device, such as a smartphone. Disclaiming intangibles such as software or firmware as unimportant to determining origin may be short-sighted. In many cases, these applications, operated by microelectronic components, reduce the physical “footprint” of an article; in some cases, they may represent a step in the evolution of the article from a physical to a non-physical one.¹¹⁶

Should the loading of activating firmware or software into a physical device automatically confer “origin” under the use prong of the substantial transformation test? Should it matter if the uploading occurs in one country but the code was written in another? It is beyond the scope of this paper to offer a definitive response, but this may be a matter ripe for rulemaking under the Administrative Procedure Act, with input from all affected stakeholders.¹¹⁷

IV. ALTERNATIVES TO “SUBSTANTIAL TRANSFORMATION”

As noted above, there are three major alternative systems to the substantial transformation rule, and the United States has utilized all three in particular circumstances.¹¹⁸

116. Indeed, one of the factors said to contribute to the multiple bankruptcies and ultimate closure of the 100-year-old Radio Shack electronics retail chain was the store’s failure to realize that many of its physical goods offerings had been supplanted by electronic smart phone applications. See Lauren Hirsch, *Electronics Store Radio Shack files for Bankruptcy Again*, REUTERS (Mar. 8, 2017, 7:51 PM), <https://www.reuters.com/article/us-radioshack-bankruptcy-idUSKBN16G06J> [https://perma.cc/6N9X-UHDL] (archived Aug. 7, 2023).

117. As noted *supra* note 58, the United States Supreme Court has indicated that the marking statute is to be implemented through regulations. See *United States v. Mersky*, 361 U.S. 431, 434 (1960).

118. It may be observed that where Congress wishes to introduce a quantitative dimension into a rule of origin, it knows how to do so, for example specifying a “35% value added” requirement for preferential origin under the GSP, US–Caribbean Trade Promotion Act, the Israel–United States Free Trade Agreement, and other trade preference regimes, or imposing “regional value content” requirements under NAFTA and the United States–Canada–Mexico Agreement. But no quantitative requirement, either as to value, time, or number of processing operations, has been specified for origin marking determinations under 19 U.S.C. § 1304(a).

A. *Value-Content Rules*

Various US preferential rules of origin use value-content rules, either independently or in conjunction with substantial transformation or “tariff shift” requirements. While these rules have the virtue of predictability, they also require CBP authorities to perform invasive reviews of manufacturers’ books and records. In cases where the importer is not the manufacturer, it may not be able to obtain the necessary information to allow CBP to review compliance with value-content rules.

Value-content rules are, to a large extent, arbitrary. First, the rule makers must determine whether the qualifying value must be expressed as a percentage of product cost or a percentage of product price/value. When the qualifying content is expressed as a percentage of entered value, as in the case of the Generalized System of Preferences, CBP officers verifying origin must not only examine the dutiable value of the imported product, but also the qualifying costs of the supplier. These factors will inevitably exist at different levels of trade. Moreover, in a cost-to-value comparison, products that sell at a premium above cost—for instance, due to the presence of artistic content or intellectual property—may find it hard to be identified as a product of a country, even if they derive most or all of their cost from that country.

The level of value-content required to secure origin varies based on the policy goals of the trade program involved. For instance, the Generalized System of Preferences requires a value content equal to 35 percent of the dutiable value of the good, while most “transaction value”—based rules in the USMCA require a 50 percent qualifying content—some, especially in the automotive sector, require substantially more. Why 35 percent in one case and 50 percent in another, to achieve the same goal of duty-free treatment? These differences are tied to trade policies, not to objective origin factors.

Other problems that arise in value-content rules of origin involve the treatment of intermediate articles of commerce created during the course of manufacturing and whether non-qualifying value may be “rolled up” to qualifying content. These problems were first manifested in the United States-Canada Free Trade Agreement, where the signatory countries were unable to agree on the treatment of intermediate materials—and the Agreement itself provided no

guidance.¹¹⁹ Decades later, and two trade agreements removed, these issues remain controversial.¹²⁰

Value-content rules of origin may be useful to drive trade policy and in cases where traders voluntarily submit to their application for the purpose of gaining a trade benefit. But they are not a suitable basis for a non-preferential rule of origin used for marking and basic duty assessment purposes.

B. *Process-Based Rules*

Rules of origin defining particular manufacturing or processing operations have the virtues of transparency and predictability, provided the manufacturing operations are established and well-understood. Congress' sole venture into legislatively defining rules of origin is reflected in Section 334 of the Uruguay Round Agreements Act,¹²¹ which set operations-based rules of origin for textile and apparel articles.¹²²

At the time of their adoption, these hastily adopted rules were controversial. They were mainly adopted to regulate then-extant quotas on imports of textile and apparel products. For garments, they replaced customs rulings that had defined the country where the fabric was cut into garment parts with a ruling making assembly through the sewing of principal seams, or knitting to shape, the origin-conferring operations. The hastily adopted rules threw international textile trade into turmoil, forcing many manufacturers to move cutting tables and sewing operations from one country to another to meet the new rules.¹²³

The rules worked less well with non-apparel textile articles, such as bedding, towels, and the like, which were arbitrarily deemed to originate in the country where their constituent fabric was formed in the "greige" state, with no regard for value-added operations which actually created the imported articles. These rules caused trade distortion and trade policy problems¹²⁴ and produced some absurd

120. See Frederic P. Cantin & Andreas Lowenfeld, *Rules of Origin, the Canada-US FTA, and the Honda Case*, 87 AM. J. INT'L L. 375, 388 (1993).

120. Anthony Harrup, *Mexico Requests USMCA Panel to Resolve Dispute Over Auto Rules*, WALL ST. J. (Jan. 6, 2022, 7:34 AM), <https://www.wsj.com/articles/mexico-requests-usmca-panel-to-resolve-dispute-over-auto-rules-11641513131> [https://perma.cc/9FC6-YJPX] (archived July 21, 2023).

121. 19 U.S.C. § 3592.

122. The rules are codified, partly in tariff-shift language. 19 C.F.R. § 102.21 (1995).

123. Section 334 did contain a provision allowing manufacturers with pre-existing contracts to obtain an 18-month extension of the old rules of origin, which minimized some commercial confusion. See *Holford USA v. United States*, 19 C.I.T. 1486, 1495 (1995).

124. For example, Macau, which did not have a fabric-making industry, had been granted a quota allocation for bedding articles, but was suddenly told by the United States government, in effect, that "we've granted you a quota allocation for bedding

results. The commercial impact of these rules was significantly reduced by the elimination of most United States textile and apparel quotas.

The benefit of transparency in the textile rules was shown when retaliatory tariffs on Chinese products were imposed under Section 301 of the Trade Act of 1974. While many manufacturers were unclear how they could rearrange their manufacturing operations to avoid Chinese origin and the Section 301 tariffs, textile producers had clear guidance through the Section 334 rules.

The foregoing being said, process-based rules of origin work best when the manufacturing and production operations involved are mature, stable, and well-understood. This is the case, for instance, with textile and apparel manufacturing, chemical reactions, petroleum refining, and similar processes. Such rules are less likely to be useful where manufacturing operations are novel, dynamic, or evolving, as in the case of the firmware-and-software-driven operations discussed *supra*. While Congress removed textile and apparel products from the substantial transformation test by enacting Section 334 of the Uruguay Round Agreements Act, CBP might consider limited rulemaking to adopt process-based rules of origin for particular goods.¹²⁵ Attempting to craft process-based rules of origin for all goods, however, would be a Herculean and likely ultimately unsuccessful task.

C. *Tariff-Shift-Based Rules*

The United States has employed tariff-shift-based rules of origin in numerous Free Trade Agreements, and also in codifying the NAFTA Marking Rules.¹²⁶ As noted *supra*, the Harmonized System nomenclature was not drafted as an instrument for determining the origin of goods, and it is a clumsy basis for attempting to fashion origin rules. While tariff-shift based rules may yield sensible outcomes in the majority of cases, there will be a sufficiently great number of arbitrary and counterintuitive divisions that are a poor substitute for the substantial transformation rule.

Tariff-shift rules require a great deal of work for compliance. Manufacturers must examine their bills of materials and make classification determination for a large number of components and materials that will never cross borders in their form as received. For

articles, but won't recognize any bedding articles manufactured in Macau as having Macau origin." *See Pac Fung Feather Co. v. United States*, 111 F.3d 114, 116 (Fed. Cir. 1997). Nonetheless, the rules were upheld as validly promulgated. *See id.* at 117.

125. By way of comparison, the European Court of Justice upheld narrowly drawn process- and value- based non-preferential rules of origin for solar panels—an issue which has bedeviled United States jurists in the antidumping and countervailing duty context. *Rensola UK Ltd. v. The Commissioners for Her Majesty's Revenue and Customs*, Case C-209/20 (20 May 2021).

126. 19 C.F.R. § 102 (1995).

this work, the manufacturers receive no benefit, other than deducing a statement of origin and marking protocol that CBP will accept when the finished goods enter the United States. Errors (or disputes) in the classification of particular goods or components may invalidate the specific origin determination (which might otherwise be intuitive under the substantial transformation rule). Validating tariff-shift-based origin statements is time- and resource-consuming for Customs authorities. It is necessary to decide whether *de minimis* exceptions should be made to tariff-shift-based rules, and, if so, how significant they should be.

While international traders may wish to subject themselves to the additional scrutiny that tariff-based origin rules require in order to obtain a trade or tariff benefit, that is a voluntary choice on the part of the trader. However, tariff-shift rules do not make a sensible basis for non-preferential purposes generally.

V. CONCLUSION

More than a century since its pronouncement by the Supreme Court in *Anheuser Busch Brewing Ass'n v. United States*¹²⁷ and eight decades after *United States v. Gibson-Thomsen, Inc.* adopted it as the lodestar for country of origin marking determinations,¹²⁸ the substantial transformation test of a change in name, character, and use remains a viable basis for non-preferential merchandise rules of origin. The rule is commercially-based, flexible in its application, and contains at least two objective elements—"name" and "use"—on which evidence can be taken and evaluated by a court.¹²⁹ Since the test is commercially-based, it can generally be understood, and spoken to, by businesspeople. They do not need to dive into a tariff schedule, or into their cost records, to make generally accurate determinations of origin.

Perhaps most importantly, the test is one that can be applied intuitively and correctly in the vast majority of cases. It is simple and straightforward in its formulation and affords the businessperson multiple pathways—name, character, or use—to derive an origin determination. Perhaps most importantly, the test is not arbitrary. Alternative methods for deriving origin—tariff-shift, value content, and origin by specific operation—are not in any sense a superior basis for non-preferential origin determinations.

That being said, evolution in certain types of manufacturing operations—most notably, the rise of intangibles in creating and operating certain types of goods—poses questions the *Anheuser-Busch* and *Gibson-Thomsen* courts could not have anticipated. Those courts did not contemplate that a physically complete article might achieve a

127. See generally 227 U.S. 556 (1908).

128. 27 CCPA 267 (1940).

129. While decisions reached under the substantial transformation rule seem hard to reconcile with each other, it is the practitioner's observation that the quality of advocacy brought to arguing origin cases plays a role in the outcomes.

new and different origin by means of operations that work no physical changes (except, perhaps, at the level of semiconductor pathways). They did not anticipate that a function historically performed by one type of machine might come to be performed by a different type of machine¹³⁰ or might migrate to an intangible form altogether. Yet, simply because these changes are intangible does not make them insignificant, and they cannot be ignored.

Some of the thornier questions posed by these new manufacturing processes, which do not fit neatly into the traditional name, character, and use test, might be addressed by carefully targeted rulemaking. Yet, any such rulemaking should be preceded by studies of particular products and technologies. This is not a task CBP should undertake independently, but it should draw upon the expertise of private sector industry groups and scientifically oriented government agencies, such as the National Institute of Standards and Technology. It is important to understand not only where the technology stands today but where it might be in the decades to come.

What cannot be countenanced, however, is the continuing application of ad hoc tests with no legal grounding, such as the notions of “sufficient” processing and “essential character” components. Application of these rules has already muddied the waters of origin determinations and made it difficult for businesspeople to plan intelligently.

On reflection, the substantial transformation test for determining the origin of goods may be the worst available—except for all the others. The efforts of government and trade are best served by looking at ways to adapt the rule to modern manufacturing processes.

130. For example, motor controllers were long recognized as distinct, single function industrial machines. But over two decades ago, motor control functions were reduced to software applications which could be executed by a standard desktop computer. *See, e.g.*, The Tariff Classification of Industrial Computers from Germany, NY 187029 (CBP Oct. 31, 2002) (describing the processing systems in industrial personal computers). In similar fashion, analog, photonic photocopying operations were migrated to electronic computer peripherals. While many of us “type” documents each day, few use a typewriter to do so. Rather, we are performing keyboard input to computers. Or perhaps, we are dictating documents with voice-recognition software, and cutting out the physical operation altogether.

