Asbestos: Caught Between Technological Development and the Threat of Civil Liability. The Italian Experience and an Approach to Colombian Law*

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Abstract. In Colombia, Law 1968 of 2019 banned the use of asbestos in the national territory. This legal breakthrough was years in the making. However, the allocation of liability against those who exposed others to asbestos, and the assessment of damages for plaintiffs who suffered asbestos related injuries is not addressed in the law. This research paper in comparative civil law attempts to answer the liability question based on the Italian experience and small jurisprudential steps taken by the Colombian bench. In doing so, the causal link in traditional civil liability and the criteria for imputation or attribution of strict liability applicable to asbestos victims are examined. The results of the research find it advisable to adapt the traditional elements of the assumption of responsibility to the demands for compensation in

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the face of asbestos related damages in the contemporary cases, taking into account presumptions that can be entered into evidence.

Keywords: asbestos, damage, causation, civil liability, compensation, toxic substances.

El asbesto: entre desarrollo tecnológico y la imputación de la responsabilidad civil. Mirada desde la experiencia italiana y aproximación al derecho colombiano

Resumen. En Colombia, la Ley 1968 de 2019 prohibió el uso de asbesto en el territorio nacional. Esta ley no abordó la imputación de responsabilidad contra quienes expusieron a otros al asbesto ni la evaluación de daños para las víctimas. Este artículo se ubica en el área de derecho civil e intenta responder a la pregunta de responsabilidad civil por asbesto basada en la experiencia Italiana y mirar los pequeños pasos jurisprudenciales tomados por los tribunales colombianos para poder determinar si se ha dispuesto la responsabilidad civil por asbesto. Al hacerlo, se identifican algunas teorías que conciernen al vínculo causal en la responsabilidad civil tradicional y al criterio de imputación o atribución de la responsabilidad objetiva aplicable a las víctimas de asbesto. Los resultados de la investigación aconsejan adaptar los elementos tradicionales de la responsabilidad a las demandas por daños relacionados con el asbesto en los casos contemporáneos teniendo en cuenta el recurso a las presunciones desde la perspectiva probatoria.

Palabras clave: asbesto, daños, causalidad, responsabilidad civil, indemnización, sustancias tóxicas.

Introduction

The market-driven mass production that began with the industrial revolution unquestionably brought about damages with inevitable consequences on human security and health. Toxic torts and their treatment by U.S. courts are example of this evolution, with the United States being the first country to face the issue of compensation without prejudice to regions such as Europe and Latin America, which are facing a similar challenge. In addition, public opinion can impact the consumption and usage of certain products. Determining the liability regime in asbestos cases is an ongoing effort in civil law jurisdictions, where there have been a series of difficulties in the understanding of its nature.

The State is responsible for guaranteeing fundamental human rights in the face of information technologies. This is reflected in the special protection awarded to children, the right to a good name and honor and state security, for example. These rights have found a greater scope after the advent of the internet, and the State has a higher duty of care in cyberspace. Proof of this is Law 1480 of 2011 or the Consumer Statute, which states that the State must take effective measures regarding the protection of minors in cyberspace, since they are potential consumers and, therefore, vulnerable to predators[1].

As a worrying example, a news story was disseminated in Colombian media via the internet on August 8, 2019, with the following the headline: "Court condemns Eternit for death of worker due to asbestos"[2]. The body of the article says that "although the use of the mineral is already prohibited in the country, the justice system continues to punish its past use. This article attempts to raise awareness of the damage that has been generated and continues to exist from the handling of a toxic substance such as asbestos. These damages have not been dealt with, because asbestos's harmful health consequences are evident not only initially, but throughout time and can cause harm when used as directed by the manufacturer.

Headlines such as the above mentioned are just an example of how lightly Colombia has taken the matter of assessing the damages caused by asbestos, especially, since the enactment of law 1968 of July 11, 2019, has not put an end to the problem.

Asbestos is still used in multiple industries in a myriad of ways. Exposure is followed by a high level of morbidity and mortality. In other words, it is a product capable of generating injuries to the health of those who were exposed to it and considering the latent nature of its effects. Asbestos damage can be revealed years or

1 Florez, Germán., "Reseña: La responsabilidad del Estado por la utilización de las tecnologías de información y comunicación (tic)" [online]. *Revista Novum Jus*. Universidad Católica de Colombia, vol. 10, n.º 2. Available at: https://novumjus.ucatolica.edu.co/article/view/1324/1255 [visited March 12, 2020].

2 Rodriguez, Johana. "Corte condenó a Eternit por muerte de trabajador a causa del asbesto" [online]. *rcn Radio*. See, https://www.rcnradio.com/judicial/corte-condeno-eternit-por-muerte-de-trabajador-causa-del-asbesto [visited March 12, 2020].

decades after exposure. Thus, victims have a legitimate claim for compensation for the damages suffered.

Regarding its use, there are, on the one hand, theories that allow it under certain controls and restrictions, and on the other hand, there are some prohibitive positions. This variability of positions by country explains why international organizations such as the ILO and WHO have promoted a total ban on the use of asbestos. Any way you look at it, there is an immense risk to human health. Without prejudice to its presence in the market, it cannot be denied that asbestos is still widely used, even despite recent legal prohibitions, reflecting the current situation of the problem of its use with different implications and of great social impact.

The assessment of monetary relief, also called damages in asbestos cases is a way to solve this problem. Thus, this paper frames asbestos damages within the field of civil liability and, therefore, identifies the possibilities of compensation for victims. In doing this, the complexity in the allocation of damages will be revealed, on the one hand, due to the nature and technicality of allocation of liability applied to multifactorial cases, including asbestos; and on the other hand, due to the inherent complexity of the product, since knowledge of science and statistics is required to determine not only its dangerous quality, but the causal link between substance and injury.

This paper aims to determine if asbestos liability cases should be framed according to the traditional postulates of civil responsibility, or if there are any possible approaches that allow for its adaptation given the gravity of the victims' situation. Before determining asbestos liability, there is a need to acknowledge that all sorts of injuries occur in a society driven by technology, in other words, the impact of technology in the field of damage compensation must be determined. From this point of view, this article considers the Italian experience as a benchmark for the responses that have been given in this field and specifically, in the face of asbestos-related damage, which allows projecting a response within the framework of Colombian law.

Asbestos is a mineral substance, a man-made product. If on the one hand the development of industry and technology have been important in the progress of humanity, the use and manipulation of asbestos, applied to the large-scale industry, directly impacts human health and generates hard-to-assess damages from the traditional framework of civil liability. This creates a situation, where actual and potential victims do not know where to go once an injury has been discovered and there is need for compensation in order to face the consequences of a serious health injury.

In this perspective, and considering that the recent Colombian law of 2019 fails to provide a solution to the problem of assessment of damages derived from asbestos, the purpose here is to frame this problem in the field of civil liability and logically within the framework of technological development in order to determine whether all injury cases that may have any causal connection to asbestos exposure should receive compensation or only those that provide specific proof of the causal relationship between use of asbestos and the injury.

I. Technological development and emergence of new cases of civil liability

Innovation, by its nature, attracts the attention of the scientific, productive and distributive sector[3]. It has allowed market growth through the incorporation of new goods and services thanks to the application of new technology. Thus, innovation processes have been applied to medicine, either through experimental therapies, to the production of medicines[4], and in general to all types of production, among other manifestations, as well as to the agriculture sector, in the form of transgenic products (GMOs) or livestock. In the latter, the effects of "mad cow" disease in the United Kingdom were felt across Europe[5]. Mad cow consisted in the contagion of cattle that had its origin in England in the late eighties, from beef consumption. Another scandalous case that occurred on the European food market is known as Belgium's chickens[6], consisting of the contamination of Belgian chickens that were fed dioxin, a toxic and carcinogenic product that had serious effects on the food chain and human health. These cases resulted from the modernization of industrial production and had endemic effects on a large scale, which triggered a change in the concept of product initially contemplated in the EEC Directive of 1985[7], with the consequent extension of the liability regime for defective products to agricultural and livestock products[8]. At the time of this article, the world is facing a challenge never seen before with the covid-19 pandemic, and it remains to be determined whether this is another case in which the need for technological advancement interferes with human health. This

3 Degl'Innocenti, Francesca. *Rischio d'impresa e responsabilità civile*. Florence, University Press, 2013, 9.

4 It is worth noting, among the various cases of defective drug products that relating to an anti-abortion known under the acronym DES that posed challenges to the US courts to provide a solution to the victims and where the theory of market share liability arises. *See* a study in: Woolcott, O. "Causation and Product Damage Caused by DES Cases in the United States", [online] DOI https://doi.org/10.15332/s1900-0448.2009.0030.06, available on https://revistas.usantotomas.edu.co/index.php/iusta/article/view/3060; on defective products *see*, Woolcott, O. *The responsibility of the producer*, Ibáñez, 2007; Woolcott, O. and Fonseca, P. "Medications and information: Implications for civil liability for development risk in Colombia", Criminality Magazine, vol. 60 - n.º 1 - January-April 2018 - 79-93.

5 Bellantuomo, D., "La mucca pazza, i mercati di bovini e indennizzo agli allevatori", Foro it., 2001, 347-355.

6 El País, "El escándalo de los pollos provoca la alarma en Europa y la dimisión de dos ministros belgas", [online] El País, June 2, 1999, available on: https://elpais.com/diario/1999/06/02/sociedad/928274401_850215.html [visited December 10, 2020].

7 European Agency for Safety and Health at Work, Directive 374 EEC of the Council of July 25, 1985 on the approximation of the laws, regulations and administrative provisions of the Member States regarding liability for damage caused by defective products, [online] available at https://osha.europa.eu/en/legislation/directives/council-directive-85-374-eec [visited June 3, 2020].

8 Indeed, the 1985 European Directive was amended by Directive 1999/34 / EC of the European Parliament and of the Council, in the part concerning the inclusion of agricultural products in the regime of the 1985 Directive.

question would have to be answered through separate research work, considering the common core of the situation, which is the relationship between technological development, its impact on human health and difficulties in determining the causal link.

Industrialization shapes the way in which activities are carried out, from an economic and social perspective because organization and intermediation facilitate such activities, which has allowed massive access to goods and services to a greater number of citizens. Under this understanding, "company activity"[9] is defined as the type of activity that creates damages. In other words, there is a direct relationship between economic and technological progress and the incidence of damages.

This context, which we could title "between the market, technology and damages", requires a novel approach in civil law jurisdictions, asking the interpreter to redefine boundaries traditionally recognized over the years because, certainly, the economic-social circumstances surrounding the assessment of damages to the victims have changed. It can be affirmed, for example, that the most representative case of the relationship between technological development and the increase in injuries occurs with traffic accidents and at the same time with the mass production of products and circulation in the market[10]. Another example is the case of pharmaceutical products and so-called toxic torts that have led to mass litigation in the United States[11]. This new reality of technology-driven production and commercialization makes it imperative to find ways, mechanisms and arguments that lead to adequate protection of the human person, which constitutes a deep concern for the States and for the jurist, since the middle of the 20th century.

For this new society driven by consumption technological development, the concept of fault ("culpa" in Spanish) is insufficient to meet the victims' compensatory demands in this new context of legal relations, and instead, strict liability has been used as a new criterion for liability allocation[12] wherever possible[13]. The next sections will show that subjective allocation based on the defendant's intentional or negligent conduct has adapted in the face of the new assumptions of civil liability, such as the case of asbestos derived damages. At the same time, the context of technological development, if it can be called that way, reveals the insufficiency of traditional elements of civil law to determine the causal relationship.

In this legal framework, most of the great developments in the field of civil responsibility are owed to case law and jurisprudential labor[14] mostly done by Common

9 Scognamiglio, Renato, "Rischio e impresa", en Riv. Dir. comm., 1967, I, 400 and ss.

10 Calabresi, G., *Ideals, Beliefs, Attitudes, and the Law. Private Law perspectives on a Public Law Problem*, Syracuse, New York, 1985.

11 Gifford, D. G., "The death of causation: Mass Products Torts' Incomplete Incorporation of Social Welfare Principles", [online] University of Maryland School of Law, 2006-11, available at: http://ssrn.com/abstract=898628 [visited January 6, 2020].

12 Trimarchi, Pietro, *Rischio e responsabilità oggettiva*, Milán, Giuffrè, 1961.

13 Beck, Ulrich, *La società del rischio. Verso una nuova modernità*. Roma, Carocci, 2000, 35 y ss.

14 Rodotà, Stefano, *Il problema della responsabilità civile*, Milán, Giuffrè, 1964, 30 and ss.

Law and Romano-Germanic legal systems, which have extended the interpretation of the current rules of liability to cases never imagined before, such as the case of monetary damages in Latin American legal systems. Later, some special liability regimes emerged, such as the case of the liability regime for damages derived from defective products, which, in Latin America, has been incorporated into the respective consumer protection laws.[15], liability for traffic accidents, liability for environmental damage and recently, liability of internet intermediaries (ISP) for copyright violation, which is a regime that is beginning to attract attention from civil liability[16]. This process of expansion of civil liability has been and continues to be so surprising that the doctrine comes to explain it through metaphors that make it possible to highlight the message that the analysis of the phenomenon entails, for which, it is enough to quote *La parabola della responsabilità civile* from famous Italian jurist Francesco Busnelli[17].

The tendency that civil liability has experienced towards strict liability, where an inquiry regarding the level of fault of the person causing the damage does not take place, is justified, especially in those cases of damages caused by business or economic activities in general, where science has not yet determined the danger of certain activities or products, and that in some of them, it coincides with what the doctrine has called "development risk"[18].

II. Transformations in civil liability. Emergence of new assumptions of responsibility[19] based on changes in the criteria of allocation and flexibility of the causal link

There are two fundamental aspects of the transformation of traditional civil liability in its internal structure, as a result of the impact of the social, economic and technological transformation that has taken place since the beginning and throughout the 20th century. On the one hand, the criterion of attribution of responsibility and, on the other hand, the flexibility of the causal issue, without prejudice to the new theories regarding assessment of damages.

15 Colombia, law 1480 of 2011. "Consumer Statute". Peru, Law 29571 of 2010, art 101, Argentina, Law 24240, "Labor Law", Brazil, Law 8078 of 1990, "Civil Code".

16 Woolcott, O. and Flórez, G., *Protección del derecho de autor*. Astrea-Universidad Católica de Colombia, Bogotá, 2015.

17 Busnelli, Francesco, "La parabola della responsabilità civile", in Rivista Critica di Diritto Privato, 1988, 643 y ss.

18 Martins de Souza, James J., "Risco de desenvolvimento e tipología das imperfeiçoes dos productos", in Revista Direito do Consumidor, nº 6, Revista dos Tribunais, p. 118 y ss.; Goldenberg, Isidoro and López Cabana, Roberto. "Los riesgos de desarrollo en la responsabilidad del proveedor profesional de productos", en Jurisprudencia Argentina, Abeledo Perrot, 1990-I-917.

19 This aspect has been developed in depth by French doctrine, such as Josserand, *Evolution e actualités,* Paris, Sirey, 1936, 30. S. Rodotà, *Il problema della responsbailità civile,* Milán, Giuffrè, 1964, 32. Also, see the remarks of H. L. A. Hart – T. Honoré, *Causation in the Law*, Oxford, Clarendon press, 1962.

From the perspective of the criterion for attributing responsibility, the traditional approach where the system punishes those responsible for "at-fault" conduct, whether this conduct can be equated to the common law concepts of intent, negligence, and recklessness, disappears before the massification of damages that result from the plurality of activities and their massive impact due to the application of technology, all of which, in general, takes place within an organization.

In this way, the classical theory of "pas de responsabilité san faute" makes way for new liability allocation criteria, either strict, (or objective) or semi-objective in nature. In the latter case, there are no considerations for the element of intent or negligence, driven by the need to ease the burden of proof for this subjective element of allocation[20], with the purpose of facilitating compensation for damages that may be caused by the massive consumption of products or services or the exercise of dangerous activities. It is a perspective that adapts to changes in societies and that requires focusing on the victim[21]. In a world that is always changing science and technology, civil liability must adapt and progressively expand to meet new demands, creating new challenges for the jurist who must reconcile the general regulations provided for in the Civil Code and the special regimes that are unquestionably taking shape in an environment of permanent transformation.

III. Asbestos, a paradigmatic case of mass production and technological development. Dangerous substance for human health

Asbestos[22] is a ductile material used as an insulator for fire, electricity, etc., widely used in industrial work even when its harmful effects on health were known[23]. It is

20 Woolcott, O., Monje, D., Peláez, R., Comandé, G. and Alarcón, A., *Estudios Contemporáneos de derecho privado. Responsabilidad civil, propiedad, contratos y obligaciones*. Universidad Católica de Colombia. Bogotá, 2018; Woolcott, O. Monje, D., Peláez, R. Comandé, G. y Morales, R., *The Modernization of Civil Law Institutions: Civil Liability, Property and Contract,* Universidad Católica de Colombia, Bogotá, 2019.

21 Visintini, Giovanna, *Tratado de la responsabilidad civil*, trad. Aída Kemelmajer y otros, T. 2., Astrea, 1999, Buenos Aires, 204.

22 The Spanish word *amianto* derives from the Greek *amiantos* which means immaculate, incorruptible, indestructible. Its synonym asbestos derives from the Greek asbestos which means perpetual, inextinguishable, due to its property of resistance to heat and fire. See, Scansetti, G. *et al*., *Il rischio amianto oggi*, Turín, 1985; Lynch, J., Ayer, H. A., "Measurement of asbestos exposure", Journal of Occuaption Medicine, 1986, 10:21-30.

23 The first application in the industry dates to 1800; In the same century, the production of cement-asbestos began in Austria. At the beginning of the 20th century, it was used in the Paris and London subways to replace flammable material. These events fueled the wide use of asbestos later in schools, hospitals, gyms, cinemas as well as throughout the industry. Production with asbestos cement was applied in Italy until 1994, it ceases due to Law 257 of 1992. Cfr. Raffi, S. y Tomei, G. "Il danno da esposizione all'amianto tra la responsabilità datoriale ed i criterio risarcitori", Danno e responsabilità, 2, 2019, 222-227. Maunaey, M, "The history of asbestos – Importing, Exporting & Worldwide Use", [online] Mesothelioma Center – Vital Services for Cancer Patients & Families (blog), 2018, available at: www.asbestos.com/asbestos/history [visited December 6, 2019].

made of fibers that split into microscopic particles, making it susceptible to diffusing in the environment. Its inhalation leads the substance to the respiratory cavities with the consequent health risks. It is recognized as a carcinogenic potential although science has not been able to determine that simple contact can cause injury to a person.

Asbestos can be found in a standalone state, as well as part of another product. Products that contain this substance can become a health risk. One of its most widespread applications is asbestos cement, used for construction to produce tiles, pipes, as well as in trains, steam engines and electric generators, in insulation devices for ship equipment, in textile material, thermo-resistant, until reaching multiple applications.

Although its origins date back to old times, its industrial application stands out since the 19th century. Asbestos is used on railways, in the metropolitan transport, the naval industry and, by extension, to a series of products of ordinary use ranging from toys, brakes and clutches of automobiles to wine filters and other uses[24].

The increase in the use of asbestos in the world led to various forms of lung disease. Indeed, the harmful consequences of asbestos were revealed, due to its toxic characteristics as well as being susceptible to breaking down into microscopic particles that are lost in the environment and therefore facilitate its penetration into the human organism. These microparticles were found especially in large factories, so most of the solutions provided to victim workers came from social security and worker's compensation, with mandated employers to adopt safety measures to prevent the inhalation of asbestos dust. Multiple controversies arose, and a series of scientific studies carried out internationally led to the knowledge its danger for human health, due to its connection with the disease called asbestosis and lung and pleural tumors[25].

In the face of their perceived burden, and instead of providing protective equipment, employers decided to progressively reduce the use of asbestos, given its dangerous nature. In some countries it was banned altogether, starting with developed nations and later, in the 1990s, in developing countries. Along the same lines, it was possible to incorporate asbestosis into some legislation as another occupational disease thanks to the intervention of international organizations such as the International Labor Organization (ILO)[26] and the World Health Organization (WHO). Likewise, Italian law

24 Cecchetti, G. *et al*., "Prodotti in cemento amianto e rischi ambientali: una rassegna dei dati disponibil", Rivista Prevenzione Oggi, Anno II, n.º 3, 1990.

25 Wagner, J. "The Discovery of the association between blue asbestos and mesoteliomas and the aftermath", Br.J.Ind.Med., 1991, 48:427-432; The first studies on the impact of asbestos on health occurred in England in the 1920s and 1930s in the framework of factory work, which led the British government to regulate the use of the mineral, see Doll, R. "Mortality fron lung cancer in asbestos workers", British Journal of industrial medicine, vol. 12, nº 2, 1955, 210-226.

26 About the use of asbestos, the ILO, by means of Convention number 121, incorporated lung cancer and mesothelioma as occupational diseases relative to benefits in the event of accidents at work and occupational diseases. By Convention n.º 162 of 1986, it ruled on the safety conditions that the use of asbestos must observe, which forced member countries to protect the health of workers from asbestos, see: World Labor Organization, "Convention on the safe use of asbestos, [online] available at https://www.ilo.org/dyn/normlex/es/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C162 [visited January 15, 2020].

n.º 455 of April 12, 1943 in one of the countries that assumed the status of occupational disease prior to the ILO position, while the Italian Supreme Court highlighted the duty of the employer, in addition to compliance with constitutional guarantees, to adopt all security measures to preserve the physical integrity and health of workers.

Along those lines, and considering the noxious health effects of asbestos, Europe issued Directive CEE 83/477[27] on "the protection of workers against the risks related to exposure of asbestos at work", which in turn is incorporated into the laws of European countries. In Italy, the extraction, commercialization and manipulation of asbestos is prohibited under Law n.º 257 of 1992. Subsequently, the European Directive IP / 99/572, with implementation period of 2005, established the prohibition of the mineral in all its forms for the countries of the Union[28]. Successively, the ILO adopted in 2006 a Resolution on asbestos that indicated the guidelines that countries must adopt for the use of asbestos with a projection to its prohibition.

The trend towards the prohibition of asbestos in the world has been and is being progressively implemented by countries[29]. Latin America has a long way to go, as indicated by the ILO and the World Health Organization (WHO). However, Colombia recently banned asbestos in the national territory through Law 1968 of July 11, 2019 "which prohibits the use of asbestos in the national territory and establishes guarantees to protect the health of the Colombians"[30].

The main pathologies revealed by science regarding asbestos exposure show the existence of a considerable level of risk that is inherent to said substance. The first publications on the relationship between exposure to asbestos and carcinogenic diseases date back to the 1930s[31]. In Italy, the first reported cases of lung tumors linked to asbestos and suffered by Italian workers in the cultivation industry who worked with this substance, date from the 1950s[32]. Asbestos is a public health issue

27 European Union. Directive 83/477, of September 19, 1983, on the protection of workers against the risks related to exposure to asbestos at work. Amended by Directive 91/382 / EEC and by Directive 2003/18 / EC. DOUE from 09-24-1983, [online] available at: https://op.europa.eu/es/publication-detail/-/publication/6276d1bc-b8e4-47e4-a9a7-8e64e3cb8041/language-es/format-PDFA1B [visited January 15, 2020].

28 European Commission. "The European Commission bans White Asbestos", [online] https://ec.europa.eu/commission/presscorner/detail/en/IP_99_572 [visited January 15, 2020].

29 Observatorio de Redes y Acción Colectiva (ORAC), "Asbesto: Un peligro silencioso". Universidad del Rosario, [online] available at https://www.urosario.edu.co/Documentos/Evento-UR/Facultad-de-Ciencia-Politica/Asbesto-un-peligro-silencioso.pdf [visited February 2, 2020].

30 Congress of the Republic of Colombia, Law 1968 of 2019, Whereas The Use Of Asbestos Is Prohibited In The National Territory And Guarantees For The Protection Of The Health Of The Colombia Are Established, [online] available at.https://dapre.presidencia.gov.co/normativa/normativa/LEY%201968%20DEL%2011%20DE%20JULIO%20DE%202019.pdf [visited March 10, 2020].

31 Mauney, M. "The history of Asbestos – Importing, Exporting & Worldwide Use", Mesothelioma Center – Vital Services for Cancer Patients & Families (blog), [online] available at https://www.asbestos.com/asbestos/history/ [visited June 3, 2018].

32 Parolari, G. *et al*. *Il rischio neoplásico da amianto ne luoghi di lavoro e nell'ambiente di vita*, Bi e Gi editori, Verona, 1987.

because of its harmful health consequences. An example of the impact of asbestos is seen in the United States, where between the years 1949 and 1979 some 27,500 cases of professional exposure to asbestos occurred through different activities, such as mineral extraction, construction and repair of ships, general construction, locomotive repair, and auto maintenance[33].

The disease best known for exposure to asbestos is asbestosis. In 1924 it was known as pulmonary fibrosis due to the inhalation of asbestos dust; later, in 1927 it was called "asbestosis" and the link with lung cancer was detected in 1935[34]. Since then, a connection between asbestos and the production of tumors in the lungs and pleura such as mesothelioma has been shown, as well as increases the rate of tumors in the upper part of the airways, also in the stomach, ovaries, kidneys, bile ducts and it even causes leukemia[35]. The National Cancer Institute of the United States rated asbestos as a substance that causes mesothelioma, a type of lung cancer linked to asbestos exposure[36].

At the present time, the risk level of exposure to asbestos or how asbestos fibers can generate the indicated pathologies is not entirely clear, as there is no definitive scientific stance on the issue. However, the connection between these pathologies and the characteristics and properties of asbestos is undeniable.

The connection between lung disease and exposure to asbestos is clear, as causation is debated[37]. This evidences the complexity the research problem that will be unraveled in the following sections of the article from the perspective of determining civil liability, even more so, considering a long latency period in years that can elapse between exposure to the mineral until the manifestation of pathology[38].

33 McConnell, EE., "Chronic inhalation study of size-separated rock and slag wool insulation fibers, Inhalation Toxicology", vol. 6, n.º 6: 1994, p. 517-514.

34 Lynch, K.M., Smith, W.A. "Pulmonary Asbestosis. III Carcinoma of lung in asbestos-silicosis", American Journal of Cancer, vol. 24, 1935.

35 El Tiempo newspaper, "Prohibido el asbesto: ¿por qué es peligroso para la salud?", [online] available at https://www.eltiempo.com/salud/prohibido-el-asbesto-cuales-son-los-riesgos-para-la-salud-374124 [visited January 6, 2020].

36 Instituto Nacional del Cancer, "Exposición al asbesto y el riesgo de cáncer", [online] available at: www.cancer.gov/espanol/cancer/causas-prevencion/riesgo/sustancias/asbesto/hoja-informativa-asbesto#q1 [visited January 15, 2020].

37 Multiple scientific studies on the relationship of asbestos with pulmonary pathologies and others have served as the basis for the provision of a constant regulation of the use of the mineral, in several cases reaching a ban. See, Montes, I. *et al*., "Normativa sobre el asbesto y sus enfermedades pleuropulmonares", Guidelines on Asbestos-Related Pleuropulmonary Disease, Archivos de Bronconeumología, vol. 168, 3, 2005, 153-168, [online] available at: https://www.archbronconeumol.org/en-normativa-sobre-el-asbesto-sus-articulo-13071586 [visited January 15, 2020].

38 El Espectador, "Científicos advierten en Colombia sobre peligro para la salud del asbesto", [online] available at https://www.elespectador.com/noticias/salud/cientificos-advierten-colombia-sobre-peligro-salud-del-articulo-477410 [visited January 15, 2020].

IV. Asbestos related civil liability: Description of the causal scenario, technical complexity, and probability of liability allocation

Under traditional notions of civil liability, the plaintiff must prove the causal link in tort cases. This is particularly difficult in the case of injury caused by multiple factors where one of them ends up qualifying as predominant. This is the case asbestos. In this sense, a certain pulmonary pathology, such as the one that can result from contact with asbestos, can be caused by a series of factors, including this mineral, as well as, by a plurality of exposures to the same substance but attributable to other substances, in which, in addition, other causal factors may come together, such as, genetic predisposition, lifestyle, exposure to other chemicals likely to generate pathologies, etc.

In these cases where several factors concur in the same harmful result, the determination of the causal relationship is difficult. Science cannot provide an answer about the cause of an illness in the face of a plurality of factors, which determines the impossibility of determining causality based on the scheme of adequate causality or natural or *sine qua non* causality. As a result, it is not possible to establish that a certain respiratory damage or pathology is necessarily the result of exposure to the pathogenic substance in question. Nonetheless, multiple scientific studies and medical reports point out the existence of a link between injury and exposure to asbestos, which has given way regulation and even a ban on its use at an international level, as has been happening progressively in Latin American countries[39]; law 1968 of 2019 being an example.

The causal model of *conditio sine qua non* to determine the causal link for purposes of allocation of liability in asbestos is difficult to apply in these cases, because liability may not be established, and victims of lung diseases related to an asbestos exposure along with their families, are left to bear the economic, social, and emotional cost of the injury.

The scenario described above begs the question: what possibilities of compensation does an asbestos victim in a civil law jurisdiction have? The researcher must inquire which criteria may lead to establishing civil liability in asbestos cases, even more so if there is normally a latency period for pulmonary pathology or another in the victim's health, which fluctuates between 30, 40 or up to 50 years.

A tool in the assessment of the causal link in asbestos cases is to determine whether the employer's exposure to asbestos during the working day, in the absence of health protection measures, can have a sufficient causal value to overcome to other risk factors that may contribute to the disease, such as comorbidities, since it is enough to identify the worker's exposure to asbestos in the workplace to make the employer liable for any exposure related pathologies.

39 Quesada, M. and Perdomo, J., "Exposure to asbestos: Health effects and legislation on its use", Master's Thesis in Occupational and Environmental Health, Universidad del Rosario, [online] available at: https://repository.urosario.edu.co/bitstream/handle/10336/13601/QuesadaZarate-MarioF.pdf?sequence=1&isAllowed=y [visited January 15, 2020].

The position is highlighted by Italian jurisprudence in a judgment of the Court of Cassation n. 644 of January 14, 2005 where the company Ferrovie dello Stato was found liable for not having provided in the 1960s the protective gear required to protect its employees from the risk of asbestos[40].

Under this reasoning, the 2005 Italian opinion attributes a causal link to any factor that has contributed together with exposure to asbestos, even indirectly, to the generation of the disease and where the exclusion of the causal relationship is only possible with the test of a foreign factor to the activity of exposure to asbestos carried out by the employer, to the extent that it is proven that such a foreign factor was enough to cause the disease.

Italian jurisprudence has addressed the issue of the causal link, despite difficulties in its determination. Therefore, the Italian experience, for the purposes of this paper, is a punctual referent regarding the causal relationship, unlike other perspectives of analysis in asbestos cases that, avoiding the analysis of the causal problem itself, choose to focus on the examination of the allocation criteria. In this last vision of the problem, for example, Spanish jurisprudence illustrates that the discussion on asbestos or asbestos damage focuses on the application of an objective or quasi-strict liability rule or a fault liability rule, among the which prevails the guidance by the latter, notwithstanding the fact that both cases should lead to an optimal level of care[41].

It is exactly this understanding, which chooses to advocate prevalently for the causal analysis of asbestos-related damages, that makes the criteria come into consideration for a causal determination in the case of asbestos damages under the light of the Italian experience.

V. Criteria for determining civil liability for asbestos in Italy. The causal relationship as the axis of the allocation issue

If the issue of causation asbestos cases were determinable in light of the certainty offered by science and through the corresponding proof of the cause and harmful effect, there would be nothing left to prove but the causal relationship on the part of the victim and determine the applicable allocation criteria that, as a general rule, would be to establish that the actions of the person who subjected the victims to asbestos exposure were negligent, that is, that they were due to omissions attributable to said subject.

40 Raffi, S. and Tomei, G. "Il danno da esposizione all'amianto tra la responsabilità datoriale ed i criteri risarcitori". *Danno e responsabilità*, n.º 2, 2019, 222-227.

41 Azagra Malo, A. "Towards litigation without horizons: procedural aggregation, non-occupational exposure to asbestos and pleural plaques" [online] InDret, Barcelona 2010, recovered from www.indret.com ; On the orientation of the Spanish jurisprudence that based the allocation in asbestos cases on the strict liability rule, see, Díez-Picazo and Ponce de León, L. Law of damages. Civitas, Madrid, 1999. For a review of the employer's asbestos liability allocation criteria, see Domínguez Martínez, P., "Damage caused by asbestos: Competent jurisdiction and civil liability", cesco Magazine on Consumer Law, n.º 17, 2016 , pp. 192-212, [online] available at http://www.revista.uclm.es/index.php/cesco [visited January 15, 2020].

However, the problem presents unique of complexities due to the characteristics of how the events take place. The problem of asbestos exposure includes, on the one hand, the actions or omissions of the employer, who, being aware of the danger of asbestos, subjects his dependents to the extraction or manipulation of this material, either for long periods, or by several people who direct the activity throughout the time lapse in which the victims are subjected to asbestos. The latter could involve the responsibility not only of a subject but of several, with the legal consequence that the plurality of responsible subjects would be liable. In this way, all these considerations become relevant in the causal analysis of the assumption of responsibility.

The comparative experience shows different positions regarding the compensation of damages in asbestos cases, which highlight the difficulties that must be faced in the presence of a plurality of factors, from which asbestos stands out as the predominant factor, or when there is a series of exposures to asbestos but conducted by different subjects over time, as indicated in the preceding paragraph.

In these cases, where science has not established with certainty that a pathology in a person exposed to asbestos is the exclusive result of such exposure, but only goes so far as to point out that the harmful result can be attributed to many factors, among them, asbestos[42], there is no application of the traditional theory of *the conditio sine qua non*, also called the theory of equivalence of conditions or the theory of the relevant condition, since it is almost impossible to establish a causal connection that determines with certainty that asbestos was the triggering factor of the illness. If there are several factors that could have contributed to the injury, asbestos as a main contributing factor acquires special relevance for the purposes of the allocation of responsibility.

In fact, given the difficulties in identifying asbestos associated injuries with scientific certainty, it is nevertheless observed, that the legal mechanisms designed to protect victims are working to establish liability in cases of asbestos-related damage, which shows a level of social sensitivity towards a modern problem in our technological society, which impacts a fundamental right such as the life, health and physical integrity of people.

In some particular cases where the causal link cannot be established, the criteria of causal probability can be applied[43], as it allows to define the factual allocation of the damage and to consider the concurrence of several factors in the causation of the damages without regard to the causal force in one of them. Thus, asbestos increases the risk of injury, and those who have exposed the victims to asbestos, should have adopted safety measures to reduce or eliminate the harmful effects of the mineral, according to the conviction that one has in the light of scientific knowledge.

42 Coggiola, N. "Nesso di causalità e colpa nel danno da amianto. Le esperienze italiana e inglese", Rivista di diritto civile 54, 4, 2008, 381-324.

43 Capecchi, M. "Il nesso di causlatà materiale e il concorso di cause", En: Visintini, G. I fatti Illeciti. Cedam, Padua, 1999, 11-104.

This new problem for victims brought about by technological development carries new challenges for civil liability, especially regarding the causal relationship. This experience shows a tendency to make the examination and determination of the causal link more flexible, as well as the assessment of the subjective liability allocation. From this perspective, the current Italian positions will be examined, as illustrative of the answers provided to the problem of causal allocation in asbestos cases, considering that Latin American legal systems share similar regimes of civil responsibility that start from the general clause of the allocation for fault. This examination of the possible answers to how to determine responsibility in asbestos cases, finally allows us to visualize the current situation in Colombian law regarding a recent legislative pronouncement on compensation for these damages. With this, it is a matter of individualizing one or some formulas that allow reestablishing a balance between technological development and the social problem that asbestos has created.

A. Asbestos Liability in Italy

Recognizing the bench contributions that have allowed the doctrine of the causal relationship, to reach new levels in the assessment of damages, is the notion of probabilistic causality applied by Italian judges in the face of allocation and assessment of damages resulting from the intervention of various factors.

Precisely, Italian jurisprudence has solved a considerable number of cases of reparation of injury to the person by exposure to asbestos, due to its massive and lasting use over time.

It is indisputable that the judge depends on scientific data to determine the direct or indirect impact of exposure to asbestos on the health of the person affected given the interdisciplinary nature of the problem of asbestos, that is, the use of medical data to determine causation. However, there are illnesses such as asbestosis or pulmonary fibrosis that are known to be determined by a certain level of accumulation of asbestos dust in the lungs and therefore, the causal relationship in each case is facilitated by scientific data.

Notwithstanding, it is still difficult to establish the causal link in cases where the injuries were suffered over time. In some cases where scientific data is not accurate in attributing the causal power exclusively to asbestos, the legal problem is vastly greater, despite the evidence of the danger of asbestos. In tumor cases, mesothelioma stands out precisely because it appears as a consequence of the accumulation of asbestos dust, but the causal determination is complicated by the latency of the pathology, which can vary between 20 and 50 years.

The criteria of the Italian jurisprudence in determining a causal relationship on asbestos related injuries varies depending to the complexity of the case. Given the difficulties in applying a traditional criterion of causal relationship, the judge has used new criteria, such as proximate cause, probability, the increased risk of contracting an illness, and others where the statistical data becomes an indicator to determine causation.

Statistical data has been used to attribute responsibility to the employer when numerous workers or ex-workers who contracted asbestosis, establishing that exposure to the mineral was the cause of the disease. Regarding allocation of liability, Italian jurisprudence reveals that fault or negligence by employer are generally accepted [44] as the cornerstone of the allocation, consisting in the absence of optimal work conditions, as well as on the violation of workplace safety rules[45].

The above means that fault or negligence are critical in allocating liability according to Italian jurisprudence because the employer has a duty to provide a safe workspace. Judges are not favorable to the defense asserted in several cases, namely, that at the time of the events it was not possible to know the danger of asbestos, which in some way refers to the notion of "development risk", that is, a cause of exclusion of liability[46]. Indeed, the judges are very rigorous with the proof of the absence of negligence in asbestos cases because whoever exposed the victim to asbestos had to foresee the grave consequences for the health and life of the human being and therefore, should have avoided the consequences with the appropriate measures for risk reduction, taking into account the provisions that, in the case of asbestos, have been made explicit by the legislator.

The attitude of the Italian jurisprudence allows us to infer that, on the one hand, negligence continues to exist as an allocation criterion; and on the other hand, its assessment has clear overtones of objectivity, to the extent that defenses based on the unpredictability of the harmful event are excluded, and it does not always require a specific test on exposure to asbestos as well as violation of security measures, because judges infer fault from certain behaviors in cases of asbestos liability, unless there are specific measures dictated by the legislator, in which case one would be liable *in re ipsa*[47].

Regarding compensation for mesothelioma, the proof of the causal relationship and fault is more complicated, due to the absence of scientific certainty about the cause of the disease, a situation that emerges from the various jurisprudential criteria considered. In these cases, Italian jurisprudence has focused on affirming the causal relationship between mesothelioma and asbestos exposure when there are no "excluding causal factors", based on the consideration that a low exposure to asbestos is

44 Riverso, R. "L'aminato negato ed impunito per i lavoratori morti per mesotelioma: overo quando le fibre non sono polveri. Il Lavoro nella giurisprudenza", n.º 5, 2006, 413-425.

45 Cassation sentence, Labor Section, August 19, 2003, nº 12138, Repertorio Foro Italiano, 2003, voz Lavoro (rapporto), n. 1353, reportada por Coggiola, N. Asbestos cases in the Italian courts: Duelling with uncertanty, Indret 4, 2009, [online], available at www.indret.com [visited January 15, 2020].

46 Regarding development risk, see, Woolcott, O. and Fonseca, P., "Los medicamentos y la información: implicaciones para la imputación de la responsabilidad civil por riesgo de desarrollo en Colombia", Criminalidad, 60(1), 79-93 [online], available at http://www.scielo.org.co/pdf/crim/v60n1/1794-3108-crim-60-01-00079.pdf [visited January 15, 2020].

47 Comandé, G. "Los criterios de imputación de la responsabilidad civil en Italia", en: Woolcott, O., Monje, D., Comandé, G., Peláez, R. y Alarcón, A., Estudios Contemporáneos de derecho privado. Editorial Universidad Católica de Colombia, 2018, 85-122.

sufficient to generate the disease[48], because this type of tumor is classified as dose-independent, that is, it does not depend on a certain amount of exposure to asbestos, however, studies on this topic indicate that the greater the exposure increases the risk of tumors[49].

When the aforementioned criterion of the absence of foreign or excluding factors has not been applied, the jurisprudence, supported by medical opinion, has chosen to apply the criterion of "high probability in light of science" of contracting the disease as a result of exposure to asbestos.

Another criterion that emerges in the causal assessment has been the "failure to reduce risk" when the defendant does not prove that he has taken the necessary measures to reduce the risk of contracting the disease. This was established in Cassation judgment n.º 4721 of May 9, 1998[50], which pointed out that the defendant was not only responsible for the omission of the measures prescribed by the law on the prevention of damages, but also of all those that are necessary to reduce the risk that is inherent to exposure to asbestos. It is a presumption of the normal and adequate causal relationship for the violation of the preventive duties incurred by the employer who relates to the increased risk of contracting the disease.

Subsequently, Cassation judgment n.º 644 of January 14, 2005[51] emphasizes that the worker had permanent contact with asbestos in the course of his work. The determination of the causal relationship is made by reversing of the burden of proof to the employer for violating the measures adopted to prevent damage, according to the state of science and technical capacity of the time. Under this same understanding, causation is presumed when the employer has subjected the worker even to incredibly low levels of exposure to pathogenic substances, unless he proves the absence of a causal relationship.

Thus, the detection of fault, or the lack of adequate measures to avoid damage that the employer knew or should have known of, is affirmed within the framework of

48 Coggiola, N. Nesso, "Di causalità e colpa nel danno da amianto. Le esperienze italiana e inglese', Rivista di diritto civile 54, 4, 2008, 381-324.

49 Henderson, D.W., de Klerk. N.H., Hammars, SP, Hillerdall, G., Huuskonen. MS, Leigh, J., Pott, F., Rossogli, VL, Shilkin, KB, Tossavainen, A., "Asbestos and Lung cancer: is attributable to asbestosis or to asbestos fiber burden?", in B. Corrin, Apathology of lung tumors, Churchill Livinston, New York, 1997, 83-105.

50 The case involved a worker from a cement-asbestos-producing company that provided services to the company between 1959 and 1970, and died in 1987 of peritoneal mesothelioma. See: Altomare, C. *et al*., "Amianto: Responsabilità civile e Tpenale e risarcimento danno", Maggioli editore, 2012, nota 47. The judgment of Cassation, Labor Section, of May 23, 2003, n. 8204 that applies a probabilistic criterion to determine the causal relationship between the absence of preventive measures and pathology, when there are several possible factors that may have caused the disease.

51 Olympus, 'Osservatorio per il monitoraggio permanente della legislazione e giurisprudenza sulla sicurezza del labor è sulla sicurezza del lavoro, "Cassazione Civile, Sez. Lavoro, 14 gennaio 2005, n.º 644 - Amianto: responsabilità datore di lavoro", [online] available at https://olympus.uniurb.it/index.php?option=com_content&view=article&id=441:cassazione-civile-sez-lavoro-14-gennaio-2005-n-644-amianto-responsabilitatore-di-lavoro&catid=16&Itemid=138 [visited January 15, 2020].

contractual responsibility, under which the employer has the duty to provide a work environment free of hazards. In addition, the judgment contemplates an aggravating factor, which is that the defendant was a large corporation with enough resources and capability of fulfilling its duty to protect the safety and health of its workers. However, this assessment of fault is questionable, since it could be argued that a company with fewer resources has a lower requirement to provide preventive measures, which completely departs from the objective elements that determine fault[52] and establishes differential treatment according to the economic capacity of the defendant, questionable not only from the civilist perspective but also from the constitutional prism, where the principle of exercising all economic activity within the constitutional parameters, including the provision of a healthy work environment, are enshrined[53].

As can be seen from the Italian judgments, the bench has variable criteria for determining the causal relationship, which do not refer to the certainty of causality but rather to a probability of its existence, generally derived from exposure to asbestos. For its part, it is highlighted that the legal allocation lies in the negligence of the person who exposed the victim to asbestos. This finding reveals the complexity of the causal problem for the purposes of the factual allocation of the damage, as mentioned since the beginning of the work, with respect to which various evaluations are woven on the facts surrounding the use and exposure of substances that are applied to the industry in product manufacturing processes and with the application of constantly evolving technology. Likewise, the difficulties of the liability system are evident, especially in the face of a reconstruction of the causal relationship[54].

Italian scholarship stresses that judges have not assumed the task of determining the ways in which material causality can be established, which is attributed to the fact that the Court of Cassation itself has stated that it is not its role to rule on the facts and If there are guidelines on this topic, the variability of criteria at the court level is revealed. Only in cases of injury by blood transfusion, blood product infection and medical liability, have there been recent pronouncements[55] but it has been affirmed that civil causality acts differently from criminal causation.

52 Chironi, G.P., *La colpa nel diritto civile odierno (colpa contrattuale ed extracontrattuale)*, Edizioni Scientifiche italiane, 2012.

53 Regarding the limits to freedom of enterprise see, Viera, Ch., "La libertad de empresa y algunos límites desde la perspectiva del estado social", Revista Jurídica de la Universidad Autónoma de Madrid (rjuam), nº 21, 2010-I, 197-224.

54 Cerea, F. "Onere della prova e nesso di causalità in tema di responsabilità sanitaria", Responsabilità medica. Diritto e pratica clínica, [online] available at http://www.rivistaresponsabilitamedica.it/onere-della-prova-nesso-causalita-tema-responsabilita-sanitaria/. [visited January 15, 2020]. A further development on this projection of the causal relationship is found in Capecchi, Marco. "Il nesso di causalità materiale e il concorso di cause", Risarcimento del danno contrattuale ed extracontrattuale. Visintini (a cura de), Milán: Cedam, 1999, 300-320.

55 Italian Cassation Court, Judgment n. 5487 of February 26, 2019 [online] available at http://www.rivistaresponsabilitamedica.it/onere-della-prova-nesso-causalita-tema-responsabilita-sanitaria/ [visited January 15, 2020] and the position of the Cassation Court expressed in report n.35 of March

The bench is split regarding the determination of the causal link, where several theories are explored[56]. Italian civil jurisprudence leaves it to the judge to determine the causal relationship, which undoubtedly starts from a premise characteristic to civil liability, which consists of an atypical allocation model of civil liability as a result of fault of negligence. This model allows the consideration of the causal relationship under guidelines that depart from rigid and unique schemes, aimed at considering the type of damage, preventing disclaimers of liability and facilitating the burden of proof for the victim through the presumptions[57].

The response provided by Italian jurisprudence to the problem of asbestos damage is located within this framework. Indeed, as mentioned in previous paragraphs, new jurisprudential criteria have emerged to determine a causal link between the pathology acquired by the victim and the asbestos exposure. On the one hand, the criterion of increased risk from exposure to asbestos and a presumption of liability[58], and on the other, the presumption of a causal link under factors, such as the risk of illness; a presumption that is generated from exposure to asbestos. In this last pronouncement, the Italian Cassation presumes negligence in the exposure to asbestos as well as the causal relationship, from which a very favorable position is inferred to the victim of the damage that does not have to prove the causal relationship and even the fault, all instead it is inferred from the conduct of exposing the victim to asbestos.

The defendant carries the burden of proving that the injury was caused by something other than exposure, to be exempt from liability. Regarding the determination of the defendant's negligence, Italian jurisprudence tends in principle to value it according to the knowledge of science and technique at the time of exposure to asbestos, however, in cases where the specific case reveals that the injury happened a long time ago, the judges can assess fault or negligence according to the prevailing knowledge at the time of the decision. It can be observed that the risk of development[59] favors

21, 2007, [online] available at www.cortedicassazione.it/Documenti/Relazione%2035_07.htm [visited January 15, 2020].

56 Different notions of causality are seen in Trimarchi, P. *Causalità e danno*, Giuffrè, 1967, as well as in Realmonte, F. *Il problema del rapporto di causalità nel risarcimento del danno*, Giuffrè, 1967.

57 On the recourse to presumptions in civil liability see, Woolcott, O. Monje, D., Peláez, R., Comandé, G. and Morales, R., *La modernización de las instituciones del derecho civil*. Editorial de la Universidad católica de Colombia, 2018; Woolcott, O., Monje, D., Comandé, G., Peláez, R. and Alarcón, A., Estudios contemporáneos de derecho privado, Editorial de la Universidad Católica de Colombia, 2018.

58 Olympus, 'Osservatorio per il monitoraggio permanente della legislazione e giurisprudenza sulla sicurezza del labor, "Cassazione Civile, Sez. Lavoro, 14 gennaio 2005, n. 644 - Amianto: responsabilità datore di lavoro", [online] available at https://olympus.uniurb.it/index.php?option=com_content&view=article&id=441:cassazione-civile-sez-lavoro-14-gennaio-2005-n-644-amianto-responsabilitatore-di-lavoro&catid=16&Itemid=138 [visited January 15, 2020].

59 Woolcott, O. and Fonseca, P., "Los medicamentos y la información: implicaciones para la imputación de la responsabilidad civil por riesgo de desarrollo en Colombia", Criminalidad, 60(1), 79-93 [online], available on http://www.scielo.org.co/pdf/crim/v60n1/1794-3108-crim-60-01-00079.pdf [visited January 15, 2020]

the victim, because it burdens the defendant with proving something that happened a long time ago, a circumstance that places the assumption of liability as one of strict liability[60].

VI. Approaching asbestos in Colombia: Between legality and reality

The idea of a hidden threat in homes and workplaces where asbestos exists is terrifying, given its possible effects on human health. The truth about this mineral substance is complicated in Colombia, where according to the National Cancer Institute, 1,744 deaths from lung cancer attributable to asbestos were recorded between 2010 and 2014, and only recently, a law banned the use of this material[61].

Unquestionably, it is a substance with a high harmful potential for human health, as it has been emphasized since the beginning of this work, which is why each legal system is called to articulate a response to the problem, in the first order, starting from its institutional legal structure and then, considering the situation that the victims live in for the purposes of compensation for the resulting damages.

Colombia has established guarantees at the constitutional and legal level for the protection of all citizens. Article 1 of the Constitution establishes the prevalence of the general interest over the individual, while the right to life is guaranteed in article 11. Article 49 of the Constitution, modified by article 1 of the Legislative Act n.º 2 of 2009, consecrates public sanitation as a State duty, and article 79 establishes the right to enjoy a healthy environment[62].

In Colombia, the State is legally responsible for all tortious acts attributable to its own wrongdoing, according to Article 90 of the Constitution. Illegal damages are those caused by action or omission and suffered by a person who should not suffer it. Punitive damages, that is, the kind that go beyond the moral sense and address the victim's reparation when they have suffered the effects of reckless or intentional conducts, are not contemplated in Colombian law and are only in the beginning stages of jurisprudential development[63].

Regarding international treaties, in 2011 Colombia ratified Convention n.º 162 of the International Labor Organization on asbestos of 1986[64], incorporating it

60 Cfr. Coggiola, N. Nesso di causalità e colpa nel danno da amianto. Le esperienze italiane ed inglese.

61 Instituto Nacional de Cancerología. "Boletin de Asbesto 2019" [online], Available on https://www.cancer.gov.co/files/libros/archivos/Bolet%C3%ADn%20Asbesto%202019.pdf [visited February 6, 2020].

62 Republic of Colombia. Political Constitution [online]. Available on http://www.constitucioncolombia.com/titulo-2/capitulo-4/articulo-88 [visited January 31, 2020].

63 Gamarra-Amaya, L." Damages and awards: a comparative study between Colombia and the United States", Revista Jurídicas, Universidad de Caldas, n.º 16 (1), 139-160.

64 Organización Internacional del Trabajo. C162 - Convenio sobre el asbesto, 1986 (n.º 162) [Online] ILO. Available on https://www.ilo.org/dyn/normlex/es/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312307:NO [visiited: February 21, 2020].

into its constitutional block, as is the case of the human rights treaties[65]. This treaty provides that the legislature will prescribe the measures to prevent and control the health risks due to asbestos exposure.

Law n.º 436 of 1998 "By means of which Convention 162 on the Use of Asbestos in Safety Conditions is approved", adopted at the 72nd Meeting of the General Conference of the International Labor Organization, Geneva 1986 "regulates the precepts established by the ILO, and establishes guidelines to minimize the exposure of those who work with this material on a daily basis"[66].

It is evident that the legislation available before 2019 was scarce and insufficient against the public health problem presented by asbestos. In 2014, the Ministry of Labor issued a document identifying substances, asbestos, silica, benzene, inorganic compound lead, and ionizing radiation, as the top five occupational carcinogens in the country[67]. The same document highlights the importance of measuring both the level of worker exposure and the number of workers exposed on a regular basis to try to eliminate or limit exposure. In addition, the document allows establishing epidemiological surveillance and investigation methods, both of exposure and of possible diseases that arise in these workers. Still, asbestos production in the country, and the exposure of thousands of people to its dire effects, remained unchanged despite these efforts.

In 2015, legislative approaches to ban asbestos began to take place in Colombia: Some senators began to discuss the creation of a work table, led by Senator Nadia Blel, to study the procedure through which asbestos would be banned through a transitional period of 3 to 5 years and during which it would be replaced with less harmful materials, both for human health and for the environment. The ministers of labor and health recognized before the country that asbestos represents a high risk to the health of Colombians, causing long-term diseases such as asbestosis, mesothelioma, and lung cancer. Likewise, the National Cancer Institute supported the studies presented that showed that this mineral in all its types produced cancer[68].

The Ana Cecilia Niño case was paramount in the development of new legislation on the use of asbestos. Niño brought her claim for the protection of her rights to right to life, health, a healthy environment, and judicial protection before the Inter-American Commission on Human Rights (IACHR) after she had been diagnosed with lung cancer. Niño, through her incessant fight, was the catalyst for the Colombian

65 Corte Constitucional de Colombia. Sentencia C-067/03, 2003 [visited February 4, 2020].

66 Congress of Colombia. Law No. 439 of 1998 [online]. Available at http://www.secretariasenado.gov.co/senado/basedoc/ley_0436_1998.html [visited February 5, 2020].

67 Colombian Ministry of Labor, "Information system on occupational exposure to carcinogens for Colombia", Colombia CAREX - 2012. [Online] November 24, 2014.

68 Senate of the Republic of Colombia. One more step towards the asbestos ban in Colombia. [Online] October 7, 2015. Available at https://ucatolica-leyex-info.ucatolica.basesdedatosezproxy.com/noticias/detalle/un-paso-mas-hacia-la-prohibicion-del -asbestos-in-colombia-13937 [visited: February 21, 2020].

Congress to pass bill n. 61 of 2017 prohibiting the use of asbestos within the national territory into law[69]. Niño was a 42-year-old journalist who died in 2017 from mesothelioma acquired after 17 years of exposure to asbestos. Ana Cecilia was not a worker, nor was she exposed to toxic fibers as a result of her occupation. He grew up and lived in Sibaté, an area of Cundinamarca, a short distance from an Eternit asbestos cement plant, belonging to the Mexican multinational Elementia. In 2016, Ana Cecilia Niño and her husband Daniel Pineda sued the Colombian State before the (IACHR) after the diagnosis of lung cancer. Niño claimed the IACHR the provision of precautionary measures for the protection of the fundamental rights to life, health, a healthy environment, and the human right to judicial protection; in addition to the prohibition of asbestos by the Colombian State[70].

The case was echoed at the level of Colombian jurisprudence, where positions were advanced in favor of the eradication of asbestos production. In 2019, in a completely innovative sentence, the thirty-ninth Administrative Court of the Bogotá DC Circuit resolved a popular action against the Ministry of Social Protection, in which the Nation is ordered - Ministry of Health and Social Protection - Ministry of Work "to design and structure an asbestos substitution action plan to complete its execution in the peremptory and non-extendable term of five years"[71].

In 2018, the Colombian Ombudsman issued an opinion on asbestos and its eventual ban. The Ombudsman stated "The State is obliged to adopt measures to prevent the death of Colombians from asbestos. Even, in more than 56 countries they have prohibited the use due to its impact on the violation and violation of human rights. How long will we continue to produce it?"[72].

It is evident that at this historical moment Colombia is ready to end the scourge produced by asbestos. This is why the debates that had taken place since 2017 were productive, and on July 11, 2019, Law n.º 1968 was issued "By which the use of asbestos is prohibited in the national territory and guarantees are established for the protection of the health of Colombians"[73]. The law contemplates a transition period

69 Congress of Colombia. Bill: "Ana Cecilia Niño". By which the use of asbestos is prohibited in the national territory. 2017.

70 "Ana Cecilia Niño", por una Colombia sin asbesto. [Online] Available at https://ucatolica-leyex-info.ucatolica.basesdedatosezproxy.com/noticias/detalle/-ana-cecilia-nino-por-una-colombia-sin-asbesto-22130. [visited February 20, 2018]

71 Congress of Colombia. Bill: "Ana Cecilia Niño". By which the use of asbestos is prohibited in the national territory. 2017.

72 Ombudsman Office, "The Ombudsman's Office calls for a new ban on the use of asbestos in Colombia. The Ombudsman's Office calls for a new ban on the use of asbestos in Colombia, [Online] available at https://ucatolica-leyex-info.ucatolica.basesdedatosezproxy.com/noticias/detalle/defensoria-del-pueblo-hace-un-nuevo-llamado -to-prohibit-the-use-of-asbestos-in-colombia-22588 [visited Feb. 20, 2020].

73 Republic of Colombia, Law 1968 of 2019, by which the use of asbestos is prohibited in the national territory and guarantees of protection of the health of Colombians are established. labor law, workers. Bogotá, Colombia: s.n., July 11, 2019.

of five years, during which it is sought that the different industries that have this mineral as input adapt their processes to cleaner technologies. It also establishes that the Ministry of Labor will have to develop a job adaptation plan for the workers who currently work in this industry. The law, also known as the "Ana Cecilia Niño" law, by the name of the victim of 2017, according to a reference made in the preceding paragraphs, includes sanctions ranging from 100 to 5,000 monthly minimum wages for the use of asbestos, as well as criminal sanctions. and administrative, but it does not establish a legal regime that allows channeling compensation for victims of diseases caused by exposure to this material.

A. Compensation of asbestos related damages

The judgment of the Supreme Court of Justice of Colombia on July 24, 2019 resolved an appeal for Cassation against Eternit Colombiana S. A.[74], in the lawsuit filed by the beneficiaries, wife and daughters of Jorge Enrique Mendieta, who was an employee of the defendant company for more than 30 years. Throughout the course of his employment and until his retirement, the victim was exposed to asbestos without protective equipment. The Court decided not to uphold the judgment of the Labor Chamber of the Superior Court of the Judicial District of Bogotá and with it, condemn Eternit to pay the consequential damage, moral damages and damages for loss of consortium[75].

In order to categorize the considerations of the Colombian Supreme Court regarding asbestos related damages, it is worth highlighting the legal discussion raised by the case in question, considering Eternit's denial to compensate the victims as ordered by the Court, on the grounds that it had subrogated itself from the assumption of the risk of death, loss of earnings and survivors' pension, and that the plaintiffs failed to file a workers' compensation claim, a circumstance that exempts the defendant from having to pay damages. In this sense, the defendant denies all negligent or reckless conduct in causing the plaintiff's mesothelioma, which they claim is a "common" pathology.

The Judgment of the Labor Cassation Chamber upheld the determination of the Court in the sense of recognizing the guilt of the company in the generation of the disease, considering the evidence of the existence of asbestos in the place and in the work environment.

What are the considerations of the Colombian High Court? Some things worth noting revolve around the confirmation of the existence of negligence by the company that had its worker exposed to asbestos for a long time in the performance of their duties.

74 Judgment of the Labor Cassation Chamber of July 24, 2019, SL 2845-2019, [online] available at http://legal.legis.com.co/document/index?obra=jurcol&bookmark=bf144f89e31fa194005840ae2e72489984bnf9 [visited January 15, 2020].

75 *Idem*.

In effect, the Court makes a precision about the difference between civil liability and social security regarding the source of the rights that each institution protects and its different teleology and from this perspective, the amounts received from both sources they are not mutually exclusive, on the contrary, they are compatible. In this line of reasoning, the Court specified: "[…] whoever receives compensation as full compensation for damages, on the occasion of an accident or occupational disease due to the employer's fault, and simultaneously an invalidity pension or survivors of occupational origin, according to the case does not benefit from double reparation for the same damage, does not incur enrichment without cause, much less the reparative effect is disproportionate, as the censorship suggests"[76].

Under this understanding, the employer is civilly liable for breaching the duty imposed by law to adopt safety and health measures for its workers, in accordance with what is provided in paragraphs 1 and 2 of article 57 of the Colombian Labor Code (CST), which enshrines the employer's duty to provide to the worker the necessary instruments to perform their work, as well as the adequate elements of protection against accidents and occupational diseases. Precisely, said breach duty by the employer makes him liable for damages under article 216 of the CST, which differs from the social security benefits headed by the corresponding entities, who, according to a teleology founded on social welfare, aim to guarantee the subsistence of the insured or their beneficiaries in the face of the production of a labor accident that prevents them from generating an income. Consequently, social security benefits do not include compensation derived from the guilty conduct of the employer, who, for his part, must assume this responsibility according to law.

Note that the Judgment ignores the question of the causal relationship, since this plaintiff worked in the company for 30 years, during which he was exposed to asbestos without adequate protection and safety measures, which was proven in litigation. Consequently, the court did not to resort to probabilistic assumptions or inferences to establish the causal connection between exposure behavior and occupational disease.

Indeed, the present case has not elicited further discussion in terms of causation, since the claim was corroborated with the evidence that showed the long years of exposure to asbestos.

Without prejudice to the clarification, the judgment did focus its attention on verifying the employer's labor fault, which resulted in the absence of adequate mechanisms to protect the worker's health as well as the conditions of the work environment.

Finally, it can be deduced from the judgment that the provision of the assumption of employer liability contained in article 216 of the CST is a rule of remission to the Civil Code to understand the scope of fault as the basis for the allocation of liability as well as for understand the consequences of breach of contract capable of generating the corresponding responsibility.

76 *Ibid*., p. 20.

Asbestos liability cases are supported by the general rules of civil liability, whether contractual or non-contractual, according to the nature of the assumption of liability. The absence of a jurisprudential casuistry at the level of Cassation prevents the identification of other criteria that allow assessing the problem of the allocation of responsibility, especially as it concerns the causal link, an already complex element of civil liability, both in terms of time and possible concurrence of other factors in the production of asbestos-related pathologies, as has been shown throughout this article.

This research study suggests to the present and future casuistry in Colombia on asbestos, to consider first, the application of probability in establishing the causal link, as it has been done in other jurisdictions, with the aim of facilitating allocation of damages against those responsible for exposing others to asbestos or similar hazardous substances, especially when the cases show the passage of time from the initial exposure to asbestos to the disclosure of the pathology or when the victim had worked for various employers, which creates causal link difficulties. Secondly, it is suggested to keep in mind the current trends that make the assessment of fault more flexible as a criterion for the allocation of responsibility, emphasizing every employer's duty to care and protect its health, integrity and life. And beyond the employment relationship, keep in mind the necessary steps to avoid causing harm to third parties, in accordance with the classic Roman aphorism *Alterun non laedere*.

Conclusion

Technological development has had an undeniable effect on human interaction, and consequently, in the assignment of liability. Science and knowledge are in continuous evolution; and despite this, neither jurisprudence nor doctrine have adopted a scientific position for the purposes of establishing civil liability, and specifically, the causal relationship. As previous paragraphs have shown, current case law turns probabilities into presumption of causation. There is uncertainty and lack of clarity amongst judges who attempt to label any possible factors that may have caused the injury, when asbestos has been handled in a period determined by the victim.

Given this reality, recent trends in the allocation of responsibility for injuries attributed to asbestos suggest the need to adapt the traditional elements of the assumption of responsibility to the demands for compensation for damages. The jurisprudence of the legal systems examined and the doctrine that explains the evolution, indicates that different criteria must be used to the thesis of the *conditio sine qua non* and of the adequate causality for a determination of the causal relationship. Otherwise, the rigid application of the traditional rules of causality lead to not being able to establish responsibility for the person who exposed the worker to asbestos inhalations, with the consequent uncertainty that arises in relation to the right to compensation for damage suffered by this type of victims.

When several parties are found liable for exposing humans to asbestos, both Italian and Latin American legal systems follow the position of joint and several liability of all defendants in the assessment of damages. In all cases, exposing a person

to asbestos inhalation is *per se* a trigger for asbestos-derived disease, even after a considerable period has elapsed.

The assumption of liability for asbestos in Italian law illustrates first, that "the history of asbestos is not over"[77] nor is it intended to end at least in the next few years, due to the latency of lung pathologies. Secondly, judicial assessment in asbestos cases provides favorable solutions to the victims' problem, which is incredibly challenging within traditional civil law liability, given its atypical nature of civil liability. These judicial assessments can adapt to the lawsuits for damages brought along by the development of science and technology. In other words, the institution of liability civil tests its usefulness on the new types of damage that technological development entails to contribute to the restoration of the balance of interests of the industry on the one hand and the victim's interests on the other.

It is also observed that the concepts of liability because of fault or negligence, and strict liability, once again face the demands of the times with technological and scientific development and the generation of new damages. In this line, the assessment of the subjective allocation criterion crosses the limits of liability for fault or negligence, into the terrain of strict liability; an advantage for the victim of the damage, not allowing the defendant to free himself with proof of his absence guilt, according to the high standards set by the judges to the defendant preventing freedom from liability.

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77 Cfr. Riverso, R. "L'amianto negato ed impunito per i lavoratori morti per mesotelioma: overo quando le fibre non sono polveri", *Il lavoro nella giurisprudenza*, n.º 5, 2006, 413-425.

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