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APPENDICITIS IN LAW

By KURT GARVE*

To apply the proper medical hypothesis to the correct legal theory in cases of appendicitis due to personal injury, for instance, is not always an easy matter, as demonstrated by *Oliverius* v. *Wicks*,¹ a civil action for assault and battery.

Defendant knocked plaintiff down with "something hard". He struck him a second time. The victim was rendered unconscious. Coming to he found his assailant on top of him, still pounding him and threatening to kill him. When the fight was over plaintiff went home groaning and moaning. He could not walk very well. Two ribs were broken. He could not sleep, was often dizzy, and his limbs were numb. Because of the injury to his abdomen he had to go to the hospital. He was discharged later. The assault occurred in June. In February of the following year he was operated on for chronic appendicitis.

It was the contention of plaintiff that his appendicitis was the result of a blow inflicted upon him during the fight. This was denied by defendant. Medical testimony was contradictory. Judgment for plaintiff. Affirmed on appeal.

This paper will deal with appendicitis and its relations to law. Upon what medical theory should plaintiff's attorney predicate his cause of action? Assuming that plaintiff had died within one year and one day, would the evidence warrant a conviction for homicide, supposing that no operation has been performed, and that the facts otherwise establish the accused's guilt beyond reasonable doubt? What defences, if any, could the lawyer for the prisoner at the bar bring forward to produce an acquittal?

MISCELLANEOUS LEGAL CASES-MEDICAL FACTS

Casual connection between external violence and injury must be established. Yet, appendicitis is apparently dissociated

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¹107 Neb. 821, 187 N. W. 73 (1922).

from external violence. The ailment is seemingly an infectious disease,² though not necessarily a contagious one.

Bacteria gain access to the appendix, comparable with the finger of a glove, by way of the alimentary tract, the blood stream, the lymphatics, and by contiguity.

Usually there are some predisposing factors which render the individual more susceptible to appendicitis than others. Kinks, twists, disturbed circulation, congenital or acquired,³ and contact with diseased structures such as inflamed tubes and ovaries⁴ may cause the disease.

Infections such as influenza,⁵ tonsillitis,⁶ rheumatism,⁷ dysentary,⁸ typhoid fever,⁹ and chronic fecal infections,¹⁰ though of low virulence, have been held responsible for the causation of appendicitis as complication of the primary infection.

Whether fecal concretions, stones, parasites, foreign bodies, seeds of fruits, pins, needles, and gall stones have something to

"The Cyclopedia of Medicine", by George Morris Piersol, vol. 1, pp. 741-47, Davis Company, Phila.

⁴ "Gynecological and Obstetrical Monographs", under "Surgery of the Female Pelvis", by Culbertson, pp. 219 et seq., D. Appleton & Co., New York and London. And see as to appendicitis in pregnancy in "Complications of Pregnancy", by Edward Davis, ibidem, pp. 155 et seq.

⁵See n. 3, p. 746. Influenza affects the mucous membranes of the whole body including the gastro-intestinal tract; and see Fritz v. Rudy Furnace Co., et al., 218 Mich. 324, 188 N. W. 528 (1922).

• See n. 3, p. 745. Appendicitis has been found to be contemporaneous with, or to follow, attacks of tonsillitis, also of diphtheria.

⁷ See n. 3, p. 746. "The fact that toxins can be carried through the blood stream or by way of the digestive tract makes it easy to understand the role of systemic diseases in the production of a localized infection like appendicitis."

*See n. 3, p. 745. Scars resulting from ulcers are apt to constrict the lumen of the appendix.

⁹ Ibidem, leading at once to chronic appendicitis. The combination of appendicitis and typhoid fever is not uncommon.

¹⁹ See n. 3, p. 747. Declared to be an exceptional mode of infection but possible, Kaufman's "Pathology", vol. 2, p. 835, under "Hematogenous and Metastatic Origin", Amer. Ed., P. Blackinston's Son & Co., Philadelphia; also see Star Pub. Co. v. Johnson, 83 Ind. App. 309, 146 N. E. 765 (1925), medical testimony.

^{*}"A Text-Book of Pathology", by MacCallum, p. 238 (2nd ed., 1920), W. B. Saunders Company, Phila. & London. The appendix has been compared with tonsils, in which likewise inflammatory agencies find a ready nidus, see "A Text-Book of Medicine", by Adolf Strumpell, p. 592, vol. 1 (4th Amer. ed., 1912), D. Appleton & Company, New York and London. It has also been pictured as a kind of filter for catching germs, see "Modern Medicine", by William Osler, p. 407, vol. 5, 1908, Lea & Febiger, Philadelphia and London.

do with appendicitis is doubtful.¹¹ It is quite conceivable that they tend to obstruct the lumen of the appendix, or that they act as mechanical irritants, thus affording an opportunity for the inflammatory appendical process.

Other observers have cast suspicion upon constipation¹² and change of diet.¹³ The disease is said to be fairly common in animals in captivity, especially amongst the apes in Zoological Gardens. It is assumed that the deprivation of the naturally coarse food is lacking in the diet in captivity.14

The greatest contest, however, turns about external violence as a means of creating appendicitis. "Accidental appendicitis''¹⁵ is, therefore, a question of great dispute among medical men. Its importance in law may thus well be appreciated.

Some legal issues of appendicitis are comparatively simple in their solutions. Appendicitis not being necessarily a contagious disease, a hospital, receiving and caring for patients afflicted with this disease, is not a public nuisance, unless the appendical inflammation is due to typhoid fever or dysentary.¹⁶ Nor would there be anything inherently hostile to public policy in providing for public charity funds for the poor who are suffering from this ailment so that they may obtain relief therefrom.¹⁷ And it has been held that mental suffering cannot aggravate acute appendicitis¹⁸ nor a state of health just subsequent to an operation therefor,¹⁹ where a carrier directs a passenger to the wrong train or forces him to walk a certain distance in a cold night.

¹¹ See n. 3, pp. 746-47. Doubt as to foreign bodies, see also Kaufmann, n. 10, p. 836. As to fecal concretions see Strumpell, n. 2. pp. 592-93.

""Practice of Medicine", by Frederick Tice, vol. 7, p. 628, 1921. W. F. Frior Company, Hagerstown, a loose-leaf ed., "patients with con-stipation seem more susceptible." And Star Pub. Co. v. Johnson, 83 Ind. App. 309, 146 N. E. 765 (1925).

¹⁸ Diet is a definite contributing cause according to Tice, n. 12; see

also n. 3, p. 741. As to digestive disorders see Osler, n. 2, p. 405. ¹⁴ "Surgical Pathology", by William Boyd, p. 320, W. B. Saunders Company, Philadelphia and London.

¹⁵ By this is commonly meant an acute appendicitis due to external violence; and see "Workmen's Compensation", by Douglas Campbell, p. 252, Sec. 256, vol. 1, Parker, Stone & Baird Co. ¹⁹ Hospitals for the treatment of contagious diseases are not nui-

sance per se., 46 Corp. Jur. 713, Sec. 202 (1928); 20 R. C. L. 409, Sec. 27

(1929), Perm. Supp. Ed.
 ¹¹ R. C. L., pp. 333 and 334, Secs. 60 and 62 (1929), Perm. Supp. Ed.; 11 Corp. Jur. 315, Sec. 19 (1917).
 ¹³ Hines v. Witherspoon, 143 Ark. 131, 219 S. W. 1014 (1920).

¹⁹ Gulf & S. I. R. Co. v. Beard, 129 Miss. 827, 93 So. 357 (1922).

Appendicitis attacks both sexes alike. Consequently the ailment is not a disease peculiar to the female sex, as such term is used in insurance contracts, only because the inflammation is often traceable to spread from infected tubes and ovaries.²⁰ And, though appendicitis is an infectious disease, usually a breach of promise to marry may not be based upon the existence of this ailment and may not be legally excused upon the ground of communicability to the spouse or to the offspring born of the marriage, nor upon the ground that consummation of marriage would endanger the life of defendant. Appendicitis is ordinarily readily curable. But a postponement of the ceremony until after the appendix has been removed may well be justified legally.²¹

Usually courts have no objections to the taking of X-ray pictures for the purposes of ascertaining the true state of health of the appendix, unless by reason of a previous X-ray examination the plaintiff has been burnt.²² The danger is, however, slight. But, an exploratory abdominal operation for such diagnostic purposes would be refused by all courts because of the inherent dangers of infection connected with the opening of the abdominal cavity.²³

Appendicitis is generally treated by operation. The disease may come on suddenly. Consent of the employer, or of his insurance carrier, to an operation is generally necessary, though in emergencies of grave character the employee may recover costs of operation without such consent. Delay under such circumstances would be too dangerous to require the employee to go thru the red tape prior to his operation. But proof of such an emergency must be clear and convincing.²⁴ And, according to

²⁴ "Medical Jurisprudence", by Adolf Herzog, p. 193, Sec. 219, Bobbs-Merrill Company, Indianapolis, citing cases, and 51 A. L. R., pp. 191 and 192.

=51 A. L. R., pp. 191-92. "Examinations Likely to Injure Health". But blood tests may be made. Compare Andrus v. Fomfara, 3 N. J. Misc. Rep. 261, 127 Atl. 788 (1925), and Hayt v. Brewster & Gordon Co., 199 App. Div. 68, 191 N. Y. S. 176 (1921), reversing 189 N. Y. S. 907 (1921).

²⁴ Ocean Accident & Guaranty Corporation v. Nance—Tex. Civ. App. —25 S. W. (2d) 665 (1930).

^{*} See n. 4, and National Life & Accident Ins. Co. v. Weaver-Tex. Civ. App.-226 S. W. 745 (1920), medical testimony of Dr. Cauldin.

²² 9 Corp. Jur. 339, Sec. 31 (1916); 4 R. C. L. 166, Sec. 23 (1929), Perm. Supp. Ed.

Cameron Coal Company v. Industrial Commission et al,²⁵ chronic appendicitis is not an incurable disease so as to classify its victim as permanently disabled. But adhesions may cause such incapacity under certain circumstances.

A power company is not liable for extinguishing the lights in an operating room, thus hindering the surgeon in removing plaintiff's appendix, there being no injury within the meaning of law which has been caused by the public utility.²⁶

Pleading, finally, that patient became permanently affected with "pain in and about her abdomen and pelvic region" is a sufficient allegation to permit of proof of appendicitis caused by personal injury due to negligence.²⁷

EXTERNAL VIOLENCE-ACCIDENT CASES

By far the greatest number of cases of appendicitis involve accidents caused by external violence or like personal injuries due to negligence or other torts.

Plaintiff bases his medical hypothesis upon the principle of a sausage already stuffed to capacity. The sudden, additional stuffing brings it to a bursting in the inside only or thru the whole skin.²⁸

Bacteria gain a foothold in the appendix prior to the infliction of external violence, food acting as their carrier. They find lodgment in the crevices of the appendical mucous membrane. For the time being the germs are harmless parasites. They are incapable of invading the deeper structures until these are deprived of their germ-resisting powers. Then, the non-toxicity and non-aggressiveness cease.

External forces with great violence press excessive fecal matters from adjacent parts into the appendical pouch. The sudden overdistension with subsequent tearing of the appendical

²⁷ Nitchman v. United Rys. Co. of St. Louis—Mo. App.—203 S. W. 491 (1918), rehearing denied.

²⁹ The elucidation of the theories to follow are based upon Journal of the American Medical Association, May 19, 1923, pp. 1448 et seq., article by Nelson Amos Luddington (negativing acute appendicitis to be caused by external violence).

144

[∞] 326 Ill. 646, 158 N. E. 399 (1927). Compare Davis v. McDonald & Kahn and Southwestern Surety Insurance Co., 3 Cal. Ind. Acc. Com. Rep. 84 (1916), holding that adhesions may constitute irritating factor until appendix is removed.

²⁸ Georgia Power & Light Co. v. Haskin, 40 Ga. App. 822, 151 S. E. 668 (1930).

lining leads to inflammation. This, the plaintiff contends, holds true of vulnerating forces from without, blows against the abdomen,—as well as from those from within,—strains while lifting. The impact of the force is transmitted in its vigor to all parts of the abdomen, as the vulnerating force radiates in all directions. Were the abdomen a solid body, in accordance with physical laws the waves of the impact would go only in one direction. But, as the abdomen is a liquid or gaseous body, corresponding physical principles apply. The fact that the appendix is situated comparatively deep in the cavity of the abdomen and is apparently so well protected otherwise does, therefore, not contradict the conclusions of this hypothesis.

In cases of aggravation of a pre-accidental infirmity of the appendix there are scars and adhesions, repair tissues incapable of proper physiological functioning. The elasticity and contractibility of the ring-like muscle fibres of the appendix are diminished. Kinks and strictures angulate and compress the lumen in some parts, thus forming chambers. This favors accumulation and stagnation of fecal matters and gas. Drainage is defective. The virulence of the germs is increased *per se*. The sudden overdistension and the tearing of tissues cause an acute flare-up of the chronic appendical infiammation.

The same theory applies to previously healthy appendices. A medical man has described cases in which a definite relation would seem to exist between external injury and acute appendi-The findings were checked by operation and laboratory citis. examinations. In one case a boy was struck in the abdomen. Five days later a definitely bloody appendix was detected. In another case the patient fell. He injured the right lower quadrant Gangrene of the appendix with apparent of his abdomen. hemorrhage and abcess formation followed. The doctor concludes that these cases were due to external violence.²⁹ This hypothesis of acute appendicitis as being due to external violence is also supported by an English medical authority, Sir William Osler.80

On the other hand, the defence claims that generally vulnerating forces of external violence cannot cause appendicitis nor

[&]quot;"Accidental Injuries", by Henry Kessler, p. 394, Lea & Febiger, Philadelphia.

²⁶ "Practice of Medicine", by Sir William Osler (3rd ed., 1899), p. 524, in accord "Surgical Pathology", by William Boyd, p. 325, W. B. Saunders Company, see n. 14.

aggravate it.³¹ The appendix is well protected against external violence. There is a great mobility of the contents of the abdomen. This facilitates easy escape by the appendix from injury.³² Much would depend upon the character of the vulnerating force, the preparedness of the mind of the victim, when meeting his hazard, the development of the abdominal muscles, and so forth. Thus, it is very unlikely that a blow will be transmitted in its full strength, if at all, into the territory of the appendix, when a trauma strikes the back or the flanks. The violence of the impact would be diminished or neutralized by the bony structures of the lower part of the abdomen.³³ The cases must, therefore, be adjudged accordingly.

In cases of acute appendicitis particularly grave doubt exists as to causal connection. There appears to be practically unanimity amongst medical men to-day that the acute form of this disease cannot be brought about by external trauma.⁸⁴ This is substantiated, for instance, by the history of over a thousand cases, litigated before the Hungarian Insurance Fund. In only 0.85 per cent. of the employees injury was given as the cause of the ailment. Casual connection is, therefore, rather problematical. Every general surgeon has had the experience that workmen, for example, are inclined to ascribe their ailments to their work. This is not difficult to understand. The daily occupations give rise to small injuries. When, then, workmen so infrequently connect industry and appendicitis, the inference is fair that no such causal connection exists.³⁵

Yet, in spite of medical opinion to the contrary courts have generally acknowledged the soundness of plaintiff's hypothesis that acute appendicitis may be initiated by external violence. In Clark v. Department of Labor and Industries of Washington³⁶ the Supreme Court sustained the medical theory as "very logical and convincing". Further evidence of its acceptability by judicial powers is Frank McDonough v. Scott Company,

³⁴ See n. 31. ³⁵ See n. 29, p. 394.

³¹ See nn. 15, and 28, and 29, held doubtful by other medical authorities.

⁵² Medical testimony of Dr. Moore in Cameron Coal Co. v. Industrial Commission et al., 326 Ill. 646, 158 N. E. 399 (1927), chronic appendicitis.

³³ In an injury case to the left hip, Caraway v. Graham, 218 Ala. 453, 118 So. 807 (1928), no appendicitis was found.

²⁶ 131 Wash. 256, 230 Pac. 133 (1924), referring to article, n. 28.

Etc.,37 decided by the California Industrial Accident Commission.

But, the defence has also good judicial authority which flatly contradicts plaintiff. In re Gardner, from Ohio,³⁸ is pointing out that "trauma has never been recognized by the medical profession as a possible cause of appendicitis''. This is re-enforced by Syde's Case,³⁹ from Maine, in which the Supreme Court rejected impliedly plaintiff's theory of traumatic "strain"-acute appendicitis as mere "speculation. conjecture and surmise".

CRITERIA OF CAUSAL CONNECTION-CASES IN GENERAL

a.) Character of Vulnerating Forces.

It is not impossible that this conflict between the Washington and Maine courts is not irreconcilable. Important may be a discrimination of the cases according to the character of the external force and according to the acuteness or chronicity of the ailment.

The Maine court is not absolutely opposed to plaintiff's medical theory, but seems to object rather to its application to "strain"-acute appendicitis.40 This jurisdiction probably recognizes lifting strains as capable of aggravating chronic ap-It may also be that "blows", "falls" and other pendicitis. vulnerating forces may initiate appendicitis in its acute form in the opinion of the court, and that they may therefore, constitute compensable appendicitis.

The Washington court has not been consistent. A "pressure-lifting"----chronic appendicitis case⁴¹ was sustained as com--

" 3 Cal. Ind. Comm. Rep. 225 (1916). "4 Ohio I. Comm. 21, quoted in "Workmen's Compensation Law", by William Schneider, vol. 1, p. 532, Sec. 141 in note 4 (2d. ed., 1932), Thomas Law Book Company, St. Louis, Mo. Here, however, the appendicitis came on one year after accident; see under "Time" Element, infra.

*127 Me. 214, 142 Atl. 777 (1928). The court did not refer to the hypothesis as expounded by Dr. Luddington, see n. 28. But the medical testimony was in accord therewith. This was held to be speculative because of assumption of facts which did not exist. The fact that judgment was entered for defendant, however, points to the conclusion that the court did not believe that there was causal connection between strain and acute appendicitis.

"The court speaks of Fritz v. Rudy Furnace Co., 218 Mich. 324, 188 N. W. 528 (1922), pointing out that the evidence differed from that of the case under consideration.

⁴¹ Shadbolt v. Department of Labor and Industries, etc., 121 Wash. 409, 209 Pac. 683 (1922).

pensable. Then followed a "fall-blow" case⁴² of undetermined character of pre-accidental health. This was non-compensable. Thereafter a "blow"—acute appendicitis decision⁴⁸ was in favor of claimant.

This does not mean that Washington courts by necessity adopt plaintiff's theory in "strain"—acute appendicitis. As to this type the Maine and Washington courts, and, in fact, many other courts may concur in non-compensability. If so, they would agree with Lininger stating that a direct and severe contusion of the abdomen in rare cases may injure a sound and healthy appendix and initiate appendicitis, while a physical exertion such as lifting efforts could not be the cause.⁴⁴

b.) "Location" Criterion.

Regardless of the stand taken by the courts as to the character of the vulnerative agency, there are certain criteria of accidental appendicitis, common to all classes of this ailment. The "location" element must suggest causal connection.

It has been postulated by medical authority⁴⁵ that there be an injury to the abdomen in order to warrant inference of accidental appendicitis. In the great majority of decisions the text speaks indeed of the right side of the abdomen,⁴⁶ the seat of the appendix. In other reports the abdomen generally is

⁴³ Tomovich v. Department of Labor and Industries, etc., 126 Wash. 287, 218 Pac. 197 (1923), with dissenting opinion.

"Clark v. Department of Labor and Industries, etc., 131 Wash. 256, 230 Pac. 133 (1924).

"See n. 29, p. 393.

⁴⁸ Ibidem, p. 394.

⁴⁵ Shadbolt v. Department of Labor and Industries, etc., 121 Wash. 409, 209 Pac. 683 (1922)—W. C.; Clark v. Department of Labor and Industries, etc., 131 Wash. 256, 230 Pac. 133 (1924)—W. C.; Texas Employers' Ins. Assn. v. Herring—Tex. Civ. App.—269 S. W. 249 (1924), rehearing denied, M. & S. Bloomquist v. Minneapolis Furniture Co., 112 Minn. 143, 127 N. W. 480 (1910)—M. & S. Watkins v. Brunswick Restaurant, et al., 123 Neb. 212, 242 N. W. 439 (1932)—W. C.; Tomseth v. Shapiro Bros., Launders & Dry Cleaners, Inc., 183 Minn. 200, 236 N. W. 311 (1931)—W. C.; Oliverius v. Wicks, 107 Neb. 821, 187 N. W. 73 (1922)—Assault & Battery, testimony of Dr. Condon; Emerson v. Old Line Life Ins. Co. of America, 190 Wis. 169, 208 N. W. 793 (1926)—Ins. Case. But in Tomobich v. Department of Labor and Industries, etc.— W. C., 126 Wash. 287, 218 Pac. 197 (1923), compensation was denied, see n. 42, supra and n. 79, infra. mentioned.47 Some cases, finally, use the word "stomach",48 possibly in a popular rather than a technical sense of the word.

It would be better, however, to require that the vulnerative force have reached the region of the appendix in its course thru the liquid or gaseous media of the body. Not the starting point. but rather the terminal of the wave of violence is to decide the issue. It is not essential that the region of the appendix be attacked directly from the outside. The postulate of another medical man appears to be clearer, who says that the nature and the location must be such as could affect the appendix.⁴⁹ Some route leading thru the appendix will then satisfy the "location" criterion. Thus, appendicitis may be caused by the regular movements of the psoas muscle while the victim is riding on a bicycle. This muscle has a course from the thigh into the abdomen and from there to the spinal column, passing on its way the appendical region. Bicycle riding causes the muscle to rub against the appendix which, when filled with fecal stones, may become inflamed by reason of continuous friction.⁵⁰ On the other hand. under certain circumstances bony structures may block the radiation of the violence into the territory of the appendix so that defendant's contention would be sound.51

c.) The "Time" Element.

It has also been postulated that severe illness must lead at once to immediate cessation from work, or that symptoms of appendicitis follow directly. An interval of from two to three

"See n. 29, p. 395.

¹⁰ Appel v. Aetna Life Ins. Co., 86 App. Div. 83, 83 N. Y. S. 238 (1903)—Ins. Case. Recovery denied because of aggravation of chronic appendicitis.

⁵¹ "Left Hip" case, impact, Carraway v. Graham, 218 Ala. 453, 118 So. 807 (1928)—Malpr. Case, no appendicitis found. Williams v. Black-Sivalls & Bryson, et al., 127 Okla. 32, 259 Pac. 550 (1927), heavy box falling against chest or side—W. C. But see: Reese v. Loose-Wiles Biscuit Co.—Mo. App.—224 S. W. 63 (1920)—M. & S., where injured ribs became infected thus causing complication in appendix, see n. 7, and n. 10.

K. L. J.-4

[&]quot;Lindqist v. Holler, et al., etc., 178 App. Div. 317, 164 N. Y. S. 906 (1917)—W. C.; Smith v. Mason Bros. Co., et al., 174 Minn. 94, 218 N. W. 243 (1928)—W. C.; Stanton v. Travelers' Ins. Co., 83 Conn. 708, 73 Atl. 317 (1910)—Ins. Case. Recovery denied because of aggravation of pre-existing infirmity of appendix.

⁴⁶ Woods v. Wilson, 19 A. L. R. 102 (1915), English decision-W. C.; Birmingham Ry. Light & Power Co. v. Moore, 148 Ala. 115, 42 So. 1024 (1906)—Carrier case, reversed on technical grounds, dissenting opin-ion; Jewel Tea Co. v. Weber, 132 Md. 178, 103 Atl. 476 (1918)—M. & S.

days without any symptoms and with full ability to work is held to make causal connection between accident and appendicitis improbable. Freedom from signs of the disease prior to the accident is also made mandatory.⁵²

Where appendicitis manifests itself immediately after the calamity one is inclined to infer mere coincidence in time, but no causal connection. It takes a certain amount of time for the ailment to develop. The contemporaneousness leads to the assumption of the disorder having culminated independently of the misfortune of violence.

Doubtful, however, is the evidentiary value of the medical condition that no symptoms must have existed prior to the calamity. If this requirement were to stand, no case of aggravation of a pre-accidental appendicitis could ever be subject to adjudication in favor of plaintiff. Defendant would be immune. But, if one were to postulate that no symptoms must have existed just prior to the accident, the condition is less open to attack. Signs of the disease immediately preceding the infliction of external violence could be interpreted as activity of a progressing ailment, going towards culmination independently of the accident. The progress of the ailment continued up to and at the time of the accident without its intervention.

The other conditions are equally subject to qualifications. If plaintiff's theory be correct, it is admitted the stretching of the appendix by reason of its being filled up suddenly beyond capacity would cause some pain. This may lead to temporary cessation from work. But this has not to be that way by necessity.⁵³ There is also no reason why there should follow a severe illness. If from natural causes an appendicitis may be mild in its symptoms, it is conceivable that external violence may also

⁵³ See n. 29, pp. 394-95.

¹³ Other symptoms may overshadow the appendical signs. Also, an inflamed appendix after a certain time may cease to be painful. The tissues become engorged with serum. The water-like infiltration acts like a local anaesthetic. The violent contractions are followed by paralysis, which puts the diseased organ at rest, a condition promoting temporary painlessness. And see Struempell, n. 2, p. 594, where it is stated that "others keep about for some days till they are forced to give up because of the aggravation of their symptoms, particularly the pain." And see: "What Happened After the Employee's Accident?", by author, in Illinois Medical Journal, vol. 66, No. 3, Sept. 1934. Some people are stolid in the presence of pain. In Frank McDonough, etc., n. 37, claimant continued to work for two days; compensation was granted.

usher in a type of appendicitis of mildness rather than of fulmination at the beginning, changing into the more conspicuous and grave clinical signs as the disorder progresses. The advance may be slow for a while. Cases substantiate these contentions. The "bicycle rider"⁵⁴ case is an example of continuing irritation. The beginning of the inflammatory reaction is uncertain. Similar is a "pressure against the abdomen" case.⁵⁵ The rupture of the appendix occurred within about five hours after the victim had started on his job.

It is, however, not to be denied that a symptom-free lapse of time, when considerable, between accident and onset of abdominal trouble creates a certain conviction that the disorder arose, after the accident, from natural causes, and that the chain of events is disconnected.

In many decisions the picture of the "time" element is rather blurred or even missing. In others the medical postulates seem to have been fulfilled.⁵⁶

The best would be to forego medical postulates of specific time standards entirely. The true criterion would depend upon the particular circumstances of each individual case as follows:

That there be-

- a.) a period of apparent good health in regard to appendicitis, or a period of latency, between accident and manifest forerunners of appendical inflammation, reasonably sufficient to dovetail with, and to account for, the phase of hidden initiatory development of the disorder,
- b.) followed immediately by manifestations of premonitory signs of appendicitis,
- c.) and leading to the full clinical picture thereof without intervention of some event indicative of the fact that the recuperative powers of the body in the meantime have reasonably definitely overcome the morbid influence of the ex-

⁵⁴ See n. 50.

[∞] Shadbolt v. Department of Labor and Industries, etc., 121 Wash. 409, 209 Pac. 683 (1922).

⁵⁶ Clark v. Department of Labor and Industries, etc., 131 Wash. 256, 230 Pac. 133 (1924), most typical case—W. C.; Murray v. Brown, et al., 107 Pa. Superior Ct. 516, 164 Atl. 138 (1933)—W. C.; Smith v. Mason Bros. Co., et al., 174 Minn. 94, 218 N. W. 243 (1928)—W. C.

ternal violence upon the appendicitis-resisting powers of the body.⁵⁷

d.) Aggravation Cases.58

Less doubt as to causal connection with external violence seems to exist, from a purely medical point of view, in cases of aggravation of pre-accidental appendicitis than in those of origination of the acute form. There are good anatomical reasons. The disease is not stabilized. It is liable to flare up upon some provocation, slight when compared with that necessary to originate appendicitis in a previously healthy organ.

The general principles of evidence underlying aggravation cases apply. If the vulnerating force is capable of entering the territory of the appendix already diseased, the suspicion arises that accident and acuteness of condition, due to a flaring up, are links of the same chain of events. Due to the already diseased condition the rules of the "time" element could not be applied so strictly as in origination cases. A relative near-contemporaneousness of accident and manifestation of the ailment would not speak so strongly against accidental aggravation.

Improbability of independent culmination is supported by proof that the victim has been apparently in good health prior to the fortuity.⁵⁹ A natural remission of appendicitis to the stage of dormancy is nothing unusual. Medical treatment may have brought the ailment out of the zone of a spontaneous flare-up.

The termination of chronic appendicitis in an acute condition may, of course, be hastened by either natural causes or by accident. Absence of proof of some intrinsic condition having promoted the acceleration leads to the inference of the co-existent accident having awakened the disease to activity. Thus, termination of a chronic appendicitis in disability at a time earlier

⁵³ See "Compensable Aggravation and Acceleration of Pre-existing Infirmities Under Workmen's Compensation Act", by author, in 22 Kentucky Law Journal, No. 4, May, 1934, pp. 582, et seq.

⁵⁰ Fritz v. Rudy Furnace Co., et al., 218 Mich. 324, 188 N. W. 528 (1922). A history of prior good health, however, does not speak unconditionally against the aggravation-theory, since chronic appendicitis may be chronic from the first without history of acute attack, "The Cyclopedia of Medicine, p. 758, see n. 3.

⁵⁷ In Selz-Schwab Co. v. Industrial Commission, et al., 326 Ill. 120, 156 N. E. 763 (1927) (rehearing denied), a blow case, deceased had been seen the next day pulling a child in a wagon for a distance of about two blocks. See as contrast cases of n. 56.

than reasonably to be anticipated, when compared with the usual and probable course of the ailment under like or similar circumstances in other persons, then points to defendant's liability.⁶⁰

A similar situation may be found where there is a sudden progress of the disorder which, though active, has prior to the accident advanced but slowly. The longer in time such preaccidental clinical progress was delayed and the sooner after the accident the appendicitis turned into the fulminating type, the greater the possibility that the change was caused by the external violence.⁶¹

And, that the injured person did not return after the accident to his former state of health, or that such return was greatly retarded, having due regard to the nature of the injuries, could be considered as another variation of the principles discussed, provided, again that a comparison with the usual results of like or similar accidental injuries in other persons similarly situated permits of such conclusion. If persons with healthy appendices, for instances, could have contracted appendicitis under similar circumstances, it is very probable that an acceleration of a chronic one could have occurred. Plaintiff is entitled to such an inference in his favor.⁶²

ANALYSIS OF CASES

a.) Workmen's Compensation Decisions.

Judicial decisions support plaintiff's claim that appendicitis, acute or chronic, may be initiated or aggravated by external violence. In the following account to be given the cases are

⁶⁶ Fritz v. Rudy Furnace Co., et al., 218 Mich 324, 188 N. W. 528 (1922); Murray v. Brown, et al., 107 Pa. Superior Ct. 516, 164 Atl. 138 (1933).

^a Murray v. Brown, et al., 107 Pa. Superior Ct. 516, 164 Atl. 138 (1933); Shadbolt v. Department of Labor and Industries, etc., 121 Wash. 409, 209 Pac. 683 (1922). Roland, et al. v. Employers' Casualty Co.—Tex. Civ. App.—290 S. W. 895 (1926), rehearing denied (1927); Employers' Casualty Co. v. Roland—Tex. Comm. App.—1 S. W. (2) 568 (1928), rehearing denied (1928). And see syllabus 7, in 290 S. W. 895, stating that "it is common knowledge that one may have soreness in the region of the appendix and yet live to ripe old age."

⁴ The differentiation between acute appendicitis and acute flare-up of the chronic type is not always easily made, see "Modern Medicine", by Osler, p. 422, see n. 2. An interesting question is also whether or not the rupture of an appendix indicates an aggravation of a preexisting infirmity or acute appendicitis. Clinical and operative findings may be helpful, as would also be laboratory reports. The issue may be highly speculative and conjectural. classified according to the vulnerative force exerted upon the employee, the decisions pertaining to workmen's compensation litigation.

1.) "Blow" Cases.63

A comparatively uniform opinion in favor of plaintiff is to be found in the "blow"-aggravation cases. In a Minnesota decision⁶⁴ the disability was caused by the impact of a board upon the right side of the abdomen. A hernia was also produced. This indicates a relatively strong external impact, a fact probably controlling. There is also an English decision.65 A chronically inflamed appendix ruptured by reason of the employee having been struck in the stomach by a piece of coal. Compensation was awarded in both cases.

Similar is the outcome of a case of acute appendicitis. In a Washington decision⁶⁶ compensation was granted, though the chief medical officer of the workmen's compensation department was very positive that no causal connection existed.

2.) "Pressure" Cases.

There is another Washington decision⁶⁷ in which pressure against the abdomen was held to have caused appendicitis, the text, however, not indicating whether the chronic or acute type was a matter at issue.

3.) "Strain" Cases.68

In the "strain" cases conflict exists. Where, as in a New

* Ocean Accident & Guaranty Corporation v. Nance-Tex. Civ. App. -25 S. W. (2) 665 (1930); Smith v. Mason Bros. Co., et al., 174 Minn. 94, 218 N. W. 243 (1928); Jewel Tea Co. v. Weber, 132 Md. 178, 103 Atl. 476 (1918); Tomseth v. Shapiro Bros., Launders & Dry Cleaners, Inc., 183 Minn. 270, 236 N. W. 311 (1931). Contra: Williams v. Black-Sivalls & Bryson, et al., 127 Okla. 32, 259 Pac. 550 (1927), long interval

of time, uncertainty of medical testimony, pre-existing condition. "Bloomquist v. Minneapolis Furniture Co., 112 Minn. 143, 127 N. W. 481 (1910)-M. & S. ⁶ Woods v. Wilson (1915), W. N. (Eng.) 109, 84 L. J. K. B. N. S.

1067, in 19 A. L. R. 102.

⁶⁶ Clark v. Department of Labor and Industries, etc., 131 Wash. 256, 230 Pac. 133 (1924).

" Shadbolt v. Department of Labor and Industries. etc., 121 Wash.

Snaholt V. Department of Labor and Industries, etc., 121 Wash.
409, 209 Pac. 683 (1922).
⁶⁶ Chicago & Alton R. C. v. Industrial Commission, et al., 310 III.
502, 142 N. E. 182 (1923), rehearing denied (1924); Texas Employers'
Ins. Assn. v. Herring—Tex. Civ. App.—269 S. W. 249 (1924), rehearing
denied (1924). Writ of error granted (1924), acute appendicitis;
Murray v. Brown, et al., 107 Pa. Superior Ct. 516, 164 Atl, 138 (1933); Fritz v. Rudy Furnace Co., et al., 218 Mich. 324, 188 N. W. 528 (1922).

Jersey decision.⁶⁹ the attack of acute appendicitis was claimed to have been due to handling a case of fruit of probably ordinary weight, the position of the court refusing compensation appears to be reasonable. Similar is Cosendai v. Piggot Bros., et al., 70 from Michigan, where the disease came on after the employee had assisted in moving a stove of a weight not excessive. But where the object is heavy, one may find compensable injury in California,⁷¹ though a decision from Maine⁷² is contra. the employee having lifted a motor about 400 pounds heavy.

In the aggravation cases the conflict is probably less pronounced. Compensation was awarded in Texas.⁷³ In an Illinois decision⁷⁴ judgment was reversed, the court not committing itself as to compensability. It appears that causal connection was not the real matter at issue.

4.) "Fall" Cases⁷⁵

"Fall" cases partake in the characteristics of "blows" and of "strains". There are multiple, contemporaneous, or quickly succeeding vulnerating forces. A union of different violences produces appendicitis. The blow upon the body, due to its impact upon the ground or upon some other object, is combined with violent contraction of the abdominal muscles. They are brought into play in order to prevent, or to break the force of the fall. In a New York decision⁷⁶ a laborer attempted to climb ont of the prism of a canal. He slipped and fell, striking his abdomen and aggravating his chronic appendicitis. And, where a restaurant employee fell and injured her right side, compensa-

John Magolda v. Central Ice & Storage Co., 3 N. J. Misc. 953 (1925); one may assume that the employee had been doing ordinary work calling for a normal amount of exertion.

¹⁰ 231 Mich. 544, 204 N. W. 722 (1925).

ⁿ Frank McDonough v. Scott Company, etc., 3 Cal. Ind. Acc. Com.

Rep. 225 (1916). ¹² Syde's Case, 127 Me. 214, 142 Atl. 777 (1928), court holding that medical testimony was based upon facts which differed from those undisputed.

"Roland, et al. v. Employers' Casualty Co.-Tex. Civ. App.-290 S. W. 895 (1926), judgment for defendant, reversed, rehearing denied (1927), judgment for plaintiff, affirmed in 1 S. W. (2d) 568 (1928), rehearing denied, heavy lifting-450 pds. "Cameron Coal Co. v. Industrial Commission, et al., 326 Ill. 646,

158 N. E. 399 (1927), reversed on question of permanency of disability.

⁷⁵ Carlton Andrus v. Atkinson, etc., 3 Cal. Ind. Acc. Com. Rep. 224 (1916).

¹⁶Lindquist v. Holler, et al., 178 App. Div. 317, 164 N. Y. S. 906 (1917).

tion was granted for the acceleration of the course of her preaccidentally diseased appendix.77

In the acute cases more doubt exists. Evidentiary facts may contradict the contention of accident due to employment. In Tucker v. Wilson & Co., et al.⁷⁸ the employee claimed that he tore his left side while slipping and falling. Medical testimony was contradictory in that the trouble was believed to have been caused more likely from some other source. Lay witnesses testifying for plaintiff denied that he received an injury whatsoever. It was also proved that at the time the "emergency doctor" examined the claimant he did not mention anything about the accident.

A Washington decision⁷⁹ in which compensation was denied is submitted to appear to be erroneous. After a fall and a blow by a small log against the abdomen the employee immediately complained of pain in his right side. Ice packs were applied. A few days later he was operated on for acute appendicitis. The dissenting opinion has the better reasoning. The man, as Justice Pemberton pointed out, had never been sick in his life. Up to the date of the industrial calamity he had been working at hard labor. The report of the commission showed that one of the muscles in the region of the appendix had been severely injured, if not ruptured. Complicated is the situation by the facts that the employee underwent four operations involving appendix, gall bladder, hernia, and so on. Such circumstances denote that in all probability a chronic appendicitis had become aggravated. Upon this ground compensation ought to have been granted.

b.) Other Personal Injuries.⁸⁰

In personal injury actions other than under workmen's compensation acts recovery has also been had. In Sullivan v. Boston Elevated Ry. Co.⁸¹ medical testimony confirmed that appendicitis had been caused by a collision, the plaintiff having been thrown

[&]quot;Watkins v. Brunswick Restaurant, et al., 123 Neb. 212, 242 N. W. 439 (1932).

¹⁸ 126 Okla. 122, 258 Pac. 905 (1927).

[&]quot; Tomovich v. Department of Labor and Industries, etc., 126 Wash.

²⁸⁷, 218 Pac. 197 (1923). ³⁹ Aronson v. Ricker, 185 Mo. App. 528, 172 S. W. 641 (1915), auto-mobile case, judgment for plaintiff; Hammond v. Louisville Ry. Co., 170 Ky. 357, 185 S. W. 1129 (1916), release and settlement, for defendant.

^{a1} 185 Mass. 602, 71 N. E. 90 (1904).

to the ground from a height of about nine feet. A "collisionblow" case, Birmingham Ry. Light & Power Co. v. Moore,⁸² from Alabama, was reversed on technical grounds. Nitchman v. United Rys. Co. of St. Louis,⁸³ is another "fall" case, which occurred in consequence of defendant having negligently and prematurely started its street car and having allowed ice to remain on the steps thereof. Judgment for plaintiff was affirmed. Oliverius v. Wicks, the leading "assault and battery-blow" chronic appendicitis case has also to be mentioned.

AFTER EFFECTS THEORIES

In the foregoing part the effects of the vulnerating forces and appendicitis were under consideration. The plaintiff may also base, in certain cases, his medical theory upon proximately caused after effects of some injury other than to the abdomen directly. The attack of the vulnerating force is now over. It is plaintiff's contention that the spread of such an injury proximately caused the appendical inflammation.

1.) Inflammatory and Toxic Conditions.

Where the injury itself is situated in the neighborhood of the appendix, little difficulty arises in interpreting the events leading to appendicitis, since infection may be carried to the appendix by contiguity, thru lymphatics, and thru the blood stream. Distant location of the non-appendical injury may create doubt, if the injury is only a slight one. Large injuries, on the other hand, though distant. may justify compensation. In a "fall" case⁸⁴ the employee suffered fractured ribs which became infected. From the day of the accident on till the date of operation, three months later, she suffered pain in her right side. Appendicitis revealed itself approximately three weeks prior to the operation. Medical testimony, though not without disagreement, corroborated plaintiff's claim. Compensation for aggravation of her chronic condition was granted.

"Burn" cases should rest upon the same principles. That burns may cause ulcers of the stomach is a well-known fact.⁸⁵

²² 148 Ala. 115, 42 So. 1024 (1906).

²⁸ Mo. App.-203 S. W. 491 (1918), rehearing denied (1918).

⁴⁴ Reese v. Loose-Wiles Biscuit Co.-Mo. App.--224 S. W. 63 (1920) -M. & S.

^{* &}quot;General Pathology", by Ernst Ziegler, p. 6, 1921, William Wood & Co.

Where the burnt area is but slight, the plaintiff's hypothesis is hardly supported.⁸⁶ Different ought to have been the outcome of Weaver v. Industrial Commission of Colorado, et al.⁸⁷ the victim's injuries having been serious and extensive. In its first decision the Supreme Court expressed pertinent doubt in regard to the propriety of turning the claimant out of court without compensation. The case was remanded for further hearing. In the second decision the court felt constrained to abide by the commission's findings negativing causal connection. The anpendicitis, acute in character, had made its appearance about a year and a half after the industrial misfortune, a fact not without influence upon the mind of the triers of facts. However, compensation may have been granted. The employee had been suffering constantly. He had ulcers of the stomach and of the intestines. The intestinal tract was diseased. Why should the appendix not have become affected thereby at last? Mere lapse of time is not a criterion in such a case, there being no sign of recuperation. It is submitted that the decision of the commission is not in accord with the liberal attitude generally taken by such industrial compensation departments.

2.) "Diet" and "Constipation" Cases.

In other cases there is also an injury to a part of the body other than the appendical region. The injury is so serious that the patient is confined to bed. He becomes constipated. He experiences difficulties with his digestion by reason of change in diet, particularly when hospitalized. Such factors may constitute dependent intervening causes of appendicitis. There are two decisions in which opposite results have been reached. In Star Pub. Co. v. Johnson⁸⁸ the employee suffered an injury to his spine. About two weeks later he had a ruptured appendix. Compensation was granted. A Massachusetts case,⁸⁹ very similar in its external features is contra, the court holding that a new and independent intervening cause had broken the chain of events. There was an aggravation of a pre-accidental arthritis of the spine. It is quite possible that the injury lighted up some infected area in the spine, that the blood became toxic

³⁶ Pine v. Terry & Tench Company, 5 N. J. Misc. 447 (1927). ⁵⁷ 69 Colo. 507, 194 Pac. 941 (1921), 72 Colo. 79, 209 Pac. 642 (1922),

 ⁸⁷ 69 Colo. 507, 194 Pac. 941 (1921), 72 Colo. 79, 209 Pac. 642 (1922), rehearing denied.
 ⁸⁸ 83 Ind. App. 309, 146 N. E. 765 (1925).

³⁹ Upham's Case, 245 Mass. 31, 139 N. E. 433 (1923).

therefrom, and that this affected the appendix. At least with reference to rheumatism causal relation between appendicitis and such disease has been claimed.⁹⁰ The morbid features of arthritis and of rheumatism not being so different⁹¹ as to exclude parallelism of causation, the Massachusetts case might have been based upon change of diet, constipation, toxicity of blood and connection between arthritis and appendicitis.

INTERNAL VIOLENCE-FOOD POISONING CASE

In cases of internal violence, i.e. oral administration of some noxious substance, plaintiff's theory is comparatively simple. The whole intestinal tract is inflamed, similarly to typhoid fever and dysentary. Or, there may be paralysis of the bowels and severe constipation.⁹² Judgment for plaintiffs was rendered in a case from Louisiana⁹³ in a "lighted up dormancy of chronic appendicitis". The decision is somewhat singular in that defendant was held liable for only so much of the affliction as was the result of the accident.⁹⁴ This would seem to be a rather difficult estimate in some cases. The appendicitis, as gathered from the Louisiana decision, was practically non-existent prior to the poisoning. Plaintiffs never had been sick. They had been playing golf, tennis, had been walking and dancing, but since the accident had been unable to indulge in these sports. They knew nothing about their appendicitis. It is quite probable that an acute appendicitis was caused which became chronic in the course of events that followed. The decision is based upon the legal

* See n. 7.

"The writer has not found in any medical textbook statements which tend to establish causal connection between an aggravated arthriwhich tend to establish causal connection between an aggravated arthri-tis and appendicitis. Arthritis may be due to germs, see "Practice of Medicine", by Tice, n. 12, and fecal infections, n. 10, and see medical testimony in Star Pub. Case, n. 88. ""A Text-Book of Medicine", by Struempell, vol. 2, pp. 720-21, see n. 2, describing different forms of ptomaine poisoning.

³³ Arndt, et al. v. D. H. Holmes Co., Ltd., 9 La. App. 36, 119 So. 91 (1928), rehearing denied.

"In such a case it is rather difficult to draw conclusions from the ⁴⁴ In such a case it is rather difficult to draw conclusions from the operative and laboratory findings, since acute appendicitis becomes chronic after about 14 days of existence; see medical testimony of Dr. J. B. Moore in Cameron Coal Co. v. Industrial Commission, et al., 326 Ill. 646, 158 N. E. 399 (1927). Thus, where an operation is performed after two weeks, the possibility exists that the acute appendicitis was originated by the accident, and that the chronic form is found on operation. See also n. 9. See also 17 Corp. Jur. 740, Sec. 73 and 8 R. C. L. 438, Sec. 11, Perm. Supp. Ed.

principle of apportionment, the court reducing the amount of damages which were held to be excessive. Some other reason for reducing the award would have been more satisfactory in the opinion of the writer.

INSURANCE CASES-ACUTE VERSUS CHRONIC APPENDICITIS

Life and accident insurance cases have relation to external violence and to the issue of acute versus chronic appendicitis. The customary clause found in policies of this sort establishes liability of the insurer only when disability or death resulted from bodily injury thru external, violent, and accidental means, independently and exclusively of all other causes. Where, therefore, a pre-accidental appendicitis has culminated independently of the stipulated accidental occurrences, or where chronic or acute appendicitis has been hastened by the accident, no liability of the insurance company exists.⁹⁵ These factual sets must be proved by the insurer as affirmative defences.⁹⁶

No hard-and-fast rules can be laid down which will indicate when the insurer is liable. But some general criteria may possibly be applied in a very broad sense:

- 1.) A history of pre-accidental symptoms, operative findings, adhesions, kinks, strictures, stones in the appendix, laboratory and pathological tests may raise the suspicion that the insured had been afflicted with chronic appendicitis at the time of the accident.
- 2.) The greater the extent of the ailment, the weaker the external force necessary to hasten it to an acute flare-up.
- 3.) The stronger the vulnerative agency, the greater the probability of aggravation of a chronic appendicitis by reason of the accident, provided history or findings of pre-accidental appendicitis are present.
- 4.) The "location" criterion must be applied.
- 5.) The time of development of appendicitis after the accident may stand in reverse proportion to extent of appendicitis found prior to the fortuity.

^{* * 14} R. C. L. 1265, Sec. 440, Perm. Supp. Ed.

⁸⁶14 R. C. L. 1433, Sec. 593, Perm. Supp. Ed., Loss and Cause, 50 L. R. A. (N. S.) 1006.

The difference between acutely and chronically inflamed appendix is that in the former the history is lacking of symptoms of appendicitis such as digestive disturbances, colics, constipation, tenderness over the abdomen, vomiting, fever, and so on. Furthermore, adhesions, constrictions, twists, and fecal concretions are signs of previously existing inflammation, and, therefore, of chronic appendicitis, which, however, may have become dormant for a long time.⁹⁷

Also, where the vulnerating force is only weak, an acute appendicitis is probably not ushered in. As a weak external force will not cause substantial disability, the conclusion is justified that a chronic appendicitis culminated independently of the calamity. On the other hand, a strong external force excludes independent culmination. The probability of either aggravation or origination exists. A preference is to be given to the former over the latter, where the history of the patient is suggestive of chronicity, and vice versa. The plaintiff, when having a clean record, will prevail, since the strength of the external force is apt to give the necessary preponderance of proof. In cases, finally, in which the strength of the impact is of medium vigor, conclusions may be difficult to be drawn. Plaintiff may lose because of insufficiency of proof.

In this type of litigation due regard must be had to the term "accidental means". Intention of doing the act is controlling. Some courts have held that an injury following an act intended may be considered to be caused by accidental means, provided the result is unusual. The better rule seems to be to the contrary.⁹⁸

Four situations are encountered:

- 1.) Neither act (cause) nor result (effect) are intended:
 - a.) the act is entirely unintentional;
 - b.) there is an intentional act at the start. But its performance is thwarted by another act not intended;

[&]quot; See nn. 59, 61, 62, and 94.

¹⁸14 R. C. L. 1239, Sec. 419, Perm. Supp. Ed., ibidem, p. 1249, Sec. 427. In Stockeley v. Fidelity & Casualty Co. of New York, 193 Ala. 90, 63 So. 64 (1915), rehearing denied (1915), a fit of vomiting opened a fresh wound from removal of appendix. Held that this did not constitute an accident within the meaning of the policy as intended by the parties thereto.

- 2.) The act is intentional, but the result is not. The result is:
 - c.) usual,
 - d.) unusual.

"Fall" and "blow" cases obviously belong to the first main category, while "pressure" cases belong to the second type. "Strain" injuries are ordinarily ambiguous, since "strain" may be intended or not. Each situation must by necessity depend upon its individual coloring.

Prima facie there would be recovery in "fall" and "blow" cases under either doctrine, no history of chronic appendicitis being present. The "pressure" cases would not lead to recovery under the majority view. Again, "strain due to fall" would be a good cause of action, where such traumatic force is recognized as capable of originating appendicitis. But "strain due to lifting" would not, even under the minority view, if the court should hold that this violence is incapable of creating acute appendicitis.

Judgment in favor of plaintiff was rendered where there was a fall upon icy pavement. The patient received the impact upon the right side of his abdomen. The force was somewhat broken by his arm being doubled up under him across the right side.⁹⁹ In another case it was a blow received while plaintiff was driving a buggy, the front wheel of which had run off. He was thrown against the dashboard, striking his abdomen.¹⁰⁰ And, where the victim had run a nail into his foot, resulting in blood poisoning and appendicitis, a judgment in favor of plaintiff was affirmed.¹⁰¹ But, in Stanton v. Travelers' Insurance Company¹⁰² the carrying of a basket of soil from one part of a garden to another part thereof was held to have merely aggravated a pre-accidental appendicitis. The basket rested against the abdomen. The appendix contained a calculus of fecal concretions. There were adhesions. The "bicycle rider" case¹⁰³ is another decision in favor of the insurer.

 ^{**} Aetna Iife Ins. Co. v. Wicker, 153 C. C. A. 324, 240 Fed. 398 (1917).
 ¹⁰⁰ New Amsterdam Casualty Co. v. Shields, 85 C. C. A. 122, 155 Fed.

 <sup>54 (1907).
 &</sup>lt;sup>101</sup> Frost v. Central Business Men's Association—Mo. App.—246
 S. W. 628 (1922).

 ¹⁰² 83 Conn. 708, 78 Atl. 317 (1910).
 ¹⁰³ Appel v. Aetna Life Ins. Co., 86 App. Div. 83, 83 N. Y. S. 238 (1903), see n. 50.

The "sport-appendicitis" cases may possibly cause some difficulty of interpretation. "Strain" would probably be considered as intentional except in "fall" cases. Yet, supposing a man is indulging in some sport requiring running, and that he stumbles, while so doing, could it not be said that his act is intentional? He certainly knew the risks involved in the game. He must be held to have consented to his being exposed to them. Emerson v. Old Line Life Insurance Company of America,104 while representing such a situation, is not decisive, though judgment was rendered for plaintiff. The issue was not brought up. In Lehman v. Great Western Accident Assn.¹⁰⁵ recovery was denied to a plaintiff who had contracted appendicitis by reason of strain while bowling. Perhaps Ludwig v. Preferred Accident Ins. Co. of New York, 106 a Minnesota case, comes closest to the problem. Appendicitis originated from sliding-whether voluntary or unvoluntary, does not appear—on the stomach a distance of ten feet, while playing baseball. Recovery was had.

The tendency of chronic appendicitis to remain non-manifest¹⁰⁷ offers opportunities of litigation in connection with statements made by an applicant for insurance. Under the "strict warranty" construction¹⁰⁸ liability of the insurer is avoided, when the statement, though made in good faith, is untrue. In other cases various elements of construction enter the issue. The matter must have materially increased the risk.¹⁰⁹ The cause of illness or death, misrepresented, must actually have contributed to disability or death. Or, there must be legal fraud, actual intent to deceive, or bad faith.¹¹⁰ Such terms as "serious illness", "good" or "sound" health¹¹¹ and representations pertaining specifically to appendicitis may also be the source of Yet, the state of health is ordinarily a matter of litigation.

 ¹⁰⁹ 14 R. C. L., pp. 1021-33, Secs. 202-15, Perm. Supp. Ed.
 ¹⁰⁹ Aetna Life Ins. Co. v. Howell, 32 Ky. L. R. 935, 107 S. W. 294 (1908); Miller v. Maryland Casualty Co., 113 C. C. A. 267, 193 Fed. 343

(1912). ¹⁰ Miller v. Maryland Casualty Co., 113 C. C. A. 267, 193 Fed. 343

(1912). ¹¹¹ Chapman v. Mutual Life Ins. Co. of New York, 146 La. 658, 83 So. 887 (1920), judgment for plaintiff, rehearing denied; Howton, et al. v. Sovereign Camp Woodmen of the World, 162 Ky. 432, 172 S. W. 687 (1915), for defendant; 14 R. C. L., pp. 1068-73, Secs. 247-52, Perm. Supp. Ed.

¹⁰⁴ 190 Wis. 169, 208 N. W. 793 (1926). ²⁰⁵ 155 Iowa 737, 133 N. W. 752 (1911). ²⁰⁶ 113 Minn. 510, 130 N. W. 5 (1911).

¹⁰⁷ See n. 97.

opinion or belief of lay persons rather than findings of objective medical examination. The insurer ought to know that such information is generally only vague. The applicant, in many cases, cannot have a certain knowledge in this subject matter. Thus, since the term "illness" indicates an ailment of such a character as to affect seriously the general soundness and healthfulness of the system, it is for the jury to decide whether an operation for chronic appendicitis is an illness within the meaning of this definition.¹¹² Where, however the appendicitis is in its acute stage, there can be no "good health", and recovery would be denied.¹¹³

DIAGNOSIS AND TREATMENT-MALPRACTICE CASES

The diagnosis of appendicitis, when a typical case, is comparatively easy. Yet, this is not always the situation encountered by the diagnostician. Where the appendix is of considerable length and freely movable,¹¹⁴ appendical pain may mimic other diseases. Even average length does not prevent that the pain is noticed in some part of the abdomen othan than the right side. It may be in the middle of the abdomen, in the left side, up in the region of the stomach or gall bladder, or down in the thigh.¹¹⁵ Other diseases, such as kidney stones,¹¹⁶ for instance, may be mistaken for appendicitis. It is not until subsequent days that the pain settles in the true region.¹¹⁷

Presence of accident complicates matters. Injuries to the bony system may appear more probable, particularly to the doctor belonging to the school of physicians who deny causal connection between acute appendical inflammation and external

¹¹⁷ See n. 115.

¹¹² See n. 110.

¹³ Howton, et al. v. Sovereign Camp Woodmen of the World, 162 Ky. 432, 172 S. W. 687 (1915).

¹⁴ The length of the appendix has been described as varying in size between 1 inch and 9½ inches and as averaging about 4 inches. The longer the appendix, the greater the difficulty of egress of solid or semi-solid bodies.—"Applied Surgical Anatomy", by George Woolsey, p. 310, 1902, Lea Bros. & Co., New York and Philadelphia.

¹¹⁵ "A Text-Book of Medicine", by Struempell, p. 594, see n. 2.

¹¹⁶ "Young's Practice of Urology", vol. 1, p. 383, W. B. Saunders Company, Philadelphia and London, stating that "these cases are especially apt to be ascribed to other abdominal diseases, and may be operated on therefor." X-ray pictures will exclude error in many cases.

violence. X-ray pictures may be of dubious value.¹¹⁸ Examination of the blood indicates no more than that there is an infection somewhere in the body.¹¹⁹

Actionable negligence due to erroneous diagnosis does not exist in many cases.¹²⁰ In *Caraway* v. *Graham*¹²¹ plaintiff had been treated after his calamity by members of the medical faculty of a university before three or four operations had been performed on him for what later turned out to be a slight irritation of the lining of the abdomen. Judgment went for defendant surgeon. But, where a chiropractor treated a patient, suffering from violent abdominal cramps for several days, with spinal massage, prescribing enemas and other improper treatment, a nonsuit was held to be error. A correct diagnosis had been made by a regular physician and surgeon. The result of the examination had been communicated to the chiropractor. He neither took the temperature nor the pulse rate. An examination of the abdomen had been omitted.¹²²

The "delay of operation" cases are closely interlinked with errors in diagnosis. In the earlier stages appendicitis may be confounded with typhoid fever in which disease no operation is indicated in absence of certain complications.¹²³

¹¹⁸ There may be no time for taking pictures, or their value may be problematic at the time of the illness, see Caraway v. Graham, 218 Ala. 453, 118 So. 807 (1928).

¹⁰ So-called "leucocytes count" or "white cells count", made under microscope. Indicates generally only infection somewhere in the body without any hint to probable location. See medical textbooks on Diagnostic Methods.

¹²⁰ Such cases must not be confounded with situations in which the dector is not informed by patient as to complaints and accidental injuries. In Hammord v. Louisville Ry. Co., 170 Ky. 357, 135 S. W. 1129 (1916), a release was held not to have been procured by fraud because a railway company's physician did not make an examination of victim's appendical region after an accident, the doctor having had no knowledge that a blow had been received by the plaintiff in that region of the body.

¹²¹ See n. 118.

¹²² Miller v. Collins, 104 N. J. L. 322, 140 Atl. 402 (1928).

¹²³ Excusable until laboratory findings, so-called "Widal test" exclude typhoid fever. See also "A Text-Book of Medicine", Struempell, n. 2, where even this prominent medical authortiy admits having mistaken an attack of appendicitis for typhoid fever until local condition became more obvious. See also n. 9. In Tice, n. 12, p. 506, vol. 4, there appears the following significant statement: "We have known eager young surgeons impressed with the necessity of immediate operation in appendicitis to open the abdomen in typhoid, expecting to find a diseased appendix." Cf. Black Mountain Corporation v. Thomas, 218 Ky. 497, 291 S. W. 737 (1927), a malpractice case.

K. L. J.--5

In other cases a correct diagnosis is followed by delay in operation. In the fulminating type of appendicitis there seems to be consensus of medical opinion that operative intervention ought to be resorted to at once.¹²⁴ In other types conservative treatment may be justified, since many patients recover without operation. Too many appendices, it is urged, are removed which on laboratory examination turn out to be healthy.¹²⁵ Other surgeons are for unconditional operation, as sooner or later a flareup is surely to be expected.¹²⁶ The "interval" operation has also its adherents. If operation be postponed until the severity of the morbid condition is allayed by nature so that the inflammatory process has become localized, the chances of complications are materially lessened. Operation is to be performed during the interval of apparent recovery and prior to a relapse.¹²⁷

However, in each and every case constant watch ought to be kept over the patient lest quick surgical procedure be missing, if the disorder should suddenly take a course to the worse. It was, therefore, error to grant a non-suit to defendant surgeon who, after examination, had pronounced the necessity for immediate operation, as "every minute means her life". Thereafter he had left the patient for three hours at which time the appendix had bursted.¹²⁸ And judgment against a hospital was affirmed when doctors in charge thereof had accepted the plaintiff for operation which was urgent. Later they refused to operate because of "ethical reasons". They had been told that arrangements had already been made for operation with some other surgeon prior to admission to defendant hospital.¹²⁹

The leaving of gauze sponges in the abdominal cavity is negligence of either operator or of hospital, their agents, employees, and servants.¹³⁰ And judgments have been sustained

¹²³ Struempell, n. 2, pp. 598-99.

¹²⁷ Ibidem, and "Operative Surgery", by Joseph Bryant, p. 872, vol. 2, D. Appleton & Co., New York and London, 1906. A waiting period of from two to three weeks after the attack is over has been recommended for the average case.

¹²³ Kaminski v. Sarnoff, 220 App. Div. 286, 221 N. Y. S. 499 (1927).
 ¹²³ See n. 124.

¹³⁶ Moore v. Ivey, et al.—Tex. Civ. App.—264 S. W. 283 (1924), rehearing denied (1924); Cochran et ux. v. Gritman, 34 Idaho 654, 203 Pac. 289 (1921). Mayberry v. Myers, 103 Okla. 175, 229 Pac. 563 (1924); Walker v. Holbrook, 130 Minn. 106, 153 N. W. 305 (1915). In

166

¹²⁴ St. Louis Southwestern Ry. Co. v. Webb, 170 Ark. 1089, 282 S. W. 966 (1926).

¹²⁸ Ibidem.

in treating appendicitis or the abdominal region near to the appendix with X-rays in such a manner that burns resulted.¹³¹ But, where it was alleged that a surgeon had negligently cut a nerve situated in the neighborhood of the appendix, while removing it, judgment in favor of plaintiff was reversed on technical grounds, since the court had not limited its instructions to this specific act of negligence.¹³²

An action may also be based upon improper after-care. Thus, a cause of action existed where an osteopath had been negligent in caring for his patient developing obstruction of the bowels after the removal of the appendix.¹³³ And, in an action against a hospital for death due to lockjaw following operation evidence was held admissible that the floors were dirty and were swept with a broom, that no serum was on hand for prophylaxis and treatment of the complication, and that another patient had died from the same infection, while in that institution. But, it was error to admit testimony of the statistical clerk of the city health department showing that of three cases of lockjaw reported within the past ten months two had occurred in defendant infirmary.134

An interesting case of this group of miscellaneous decisions is Fetzer v. Aberdeen Clinic,¹³⁵ from South Dakota. A patient after operation developed delirium. Held that plaintiff could not recover unless there was knowledge in defendants that he

Cowan v. Bouffleur, 192 Ill. App. 21 (1915), a piece of gauze was left in vagina. It is submitted that damages awarded were excessive. See "Non-operative Gynecology", pp. 77-78, by Gellhorn, and "Gynecologi-cal and Obstetrical Pathology", by Frank, in "Gynecological and Ob-stetrical Monographs", n. 4. As to liability of hospital, see 48 Corp. Jur. pp. 1131-32, 1929, Sec. 123, and Guell v. Tenney, 262 Mass. 54, 159 N. E. 451 (1928), where surgeon was held not liable. Res ipsa loquitur does not apply.

does not apply. ²¹³ Shockley v. Tucker, 127 Iowa 456, 103 N. W. 360 (1905), judg-ment for plaintiff reversed on technical grounds. Medical testimony that X-ray treatment for appendicitis is improper per se. The author has found in the large medical library of the Los Angeles County Medical Association no book on X-ray therapy advocating X-ray treat-ment for appendicitis. Casenburg v. Lewis, 163 Tenn. 163, 40 S. W. (2d) 1039 (1931). As to res ipsa loquitur in diagnosis and treatment with X-ray see "Medical Jurisprudence", by Alfred Herzog, p. 190, Sec. 218, citing decisions, Bobbs-Merrill Company, Indianapolis. ¹²³ Telanus v. Simpson, et al., 321 Mo. 724, 12 S. W. (2d) 920 (1998)

(1928). ¹³³ Reed v. Laughlin, et al., 332 Mo. 424, 58 S. W. (2d) 440 (1933). ¹³⁴ Woodlawn Infirmary, Inc., et al. v. Byers, 216 Ala. 210, 112 So. 831 (1927), reversed on technical grounds.

¹³⁶ 48 S. D. 308, 204 N. W. 364 (1925).

was possessed of a tendency to inflict self-injury or that he would escape from the building. Climbing from a third-story window the patient had fallen and sustained serious injuries. The case speaks of irrationality of the patient. Due regard should be had to patients apt to develop delirium tremens which may come on in chronic alcoholics,¹³⁶ or when they are still under the influence of the anaesthetic.¹³⁷ or suffering from a toxic condition.¹³⁸ Lack of taking a proper medical history prior to the surgical operation may thus constitute actionable negligence. In the *Fetzer* case the attack came on on the sixth day after operation. At such time it cannot be assumed that a patient will commit acts of violence. The decision appears to be fair in absence of any warning to the hospital employees or the treating doctor to the contrary.

OPERATION CASES AND INTERVENTION OF THIRD PARTIES¹³⁹

In connection with "operation cases" the issue of intervention of a responsible agency in form of a third party and liability of defendant is likely to arise. The surgeon may have made an erroneous diagnosis. He may have delayed operation. Or, he may have gone outside of the scope of his employment when removing the appendix, as where in an accident case an operation for appendicitis is not a part of the nature and extent of the injuries received. This last class of decisions will be discussed.

An operation in connection with defendant's liability must have as its object the restoration of the victim's health to the status quo as nearly as possible, when considered from the point of view of his fortuitous injuries only. Where, therefore, the surgeon goes outside of this requirement, liability of defendant ceases pro tanto. But death from chronic appendicitis, a part of the accidental injuries received and for which an operation was necessary, and from other pre-existing infirmities, by use of

¹³⁶ "A Practical Manual of Insanity", by Brower-Bannister, pp. 34 and 208, 1902, W. B. Saunders & Company, Philadelphia and London. ¹³⁷ Ether hallucinations, n. 136, pp. 31-32, saying that "the possible effect of powerful narcotics, such as the anaesthesias employed, is a factor not to be neglected in this connection . . . ".

 ¹³⁸ Note 136, p. 153, under "Primary Confusional Insanity."
 ¹³⁹ Sweney v. Sweney, 5 N. J. Misc. 747 (1927), compensation denied. As to malpractice of third parties, see 28 R. C. L., pp. 833 et Rec. L. 449, Sec. 19, Per. Supp. Ed., Workmen's Compensation, and 8 R. C. L. 449, Sec. 19, Perm. Supp. Ed., in civil cases.

169

a general anaesthetic,¹⁴⁰ or from complications following tearing of adhesions and from operation thereafter.¹⁴¹ are compensable. Where, however, the servant suffered only a double hernia and died from peritonitis caused by the contemporaneous removal of the appendix, not involved in the accident, the employer is absolved from liability beyond the hernial injuries.¹⁴² Yet, in a Massachusetts case¹⁴³ apparently a contrary result was reached. Some peculiarity accounts for the seeming deviation. The cause of death was a blood clot, formed after a combination of operation for hernia, compensable, and appendicitis, non-compensable. Held that judgment should go to claimant, since it was impossible to say whether the blood clot originated from operative interference with the compensable or non-compensable disorder. The court thought that claimant should not be held to strict proof and that she should not be deprived of the benefits of the workmen's compensation act, even though she was unable to trace the cause of death with certainty.

In the Upham's Case,¹⁴⁴ on the other hand, the same court did not adopt a like liberal attitude, though there were apparently sufficient reasons for doing so. The employee suffered an injury to the spine. He had to be put into a plaster cast. Ap-In order to prevent nullification of the pendicitis followed. benefits of the treatment by a further attack of appendicitis an operation therefor was performed. Complications caused death. Compensation was denied.

It would seem at first blush that this decision is based upon a construction of too narrow a margin of intent of workmen's compensation acts. A recurrence of appendicitis was not unlikely to occur. The operating surgeon justified the surgical procedure upon the ground that the ailment would have caused great inconvenience, thus interfering with the healing of the spinal injuries. That he acted with an eye upon the benefit of the employer is apparent. Compensation might have been grant-The case is one in which the appendicitis was apparently ed.

¹⁴⁰ Smith v. Mason Bros. Co., et al., 174 Minn. 94, 218 N. W. 243 (1928). ³⁴¹ Murray v. Brown, et al., 107 Pa. Superior Ct. 516, 164 Atl. 138

^{(1933).}

¹⁴³ Hoffman v. Pierce Arrow Motor Car Co., et al., 193 App. Div. 123, 183 N. Y. S. 766 (1920).

¹⁴³ Atamian's Case, 265 Mass. 12, 163 N. E. 194 (1928). 111 245 Mass. 31, 139 N. E. 433 (1928).

caused by the accidental aggravation of the pre-existing spinal arthritis. The plaster cast probably caused constipation. The arthritis demanded change of diet. The hospital food changed the man's mode of living.

The court considered the recrudescence of appendicitis as too remote a possibility. It is also true that the plaster cast could probably have been removed without damage to the spinal injury in case another attack of appendicitis would have necessitated an operation. One may also urge that the plaster cast was merely the last step of treatment after which the employee would have been discharged as cured. He had been under treatment for a long time. His recuperative powers had increased, his body had adjusted itself to the surroundings. There was no showing of lowered vitality in regard to the appendicitis-resisting powers of his body, as far as the above-discussed influences were concerned.

The principle of the case then seems to be that mere convenience to the operator or patient is not sufficient to make an operation a necessary part of compensable injuries when they have sufficiently improved. There must be a real emergency, a genuine necessity, which cannot be obviated without aggravating the compensable injury. A fracture of the spine, for instance, in its earlier stage of treatment might possibly have justified compensation under similar circumstances.

Defendant may also set up as plea that an operation was unnecessary, since appendicitis may have been "cured" by conservative means. This was done in Arndt, et al. v. D. H. Holmes $Co., Ltd.,^{145}$ a case of aggravation of chronic appendicitis. Plaintiff is put into his former state of health, when the acute flare-up is reduced to its former condition of dormancy. Yet, this would appear to be an argument of rather theoretical character. Who could undertake to say with a reasonable certainty that such a treatment in fact restored the victim to his pre-accidental situation? Is the victim of another's tort to be exposed thereafter to constant danger of an acute acceleration of his disorder with possibly fatal outcome? The costs of removal of a dormantly chronically inflamed appendix, when awakened to activity by the negligence of defendant, should be borne by him because he set into motion events likely to lead to acuteness thereafter, an

^{146 9} La. App. 36, 119 So. 91 (1928).

operation being the only safe measure of preventing it. Whether the *Arndt* case reveals such a benign character of appendicitis so as to dispense with operative procedure is doubtful. The court apparently brushed aside this issue, thus leaving the question open.

THE OLIVERIUS CASE-BEYOND REASONABLE DOUBT¹⁴⁶

This brings us back to the *Oliverius* case. That defendant might have been guilty of murder is shown by the fact that the victim begged him to desist. He was heard to say: "Oh, don't", or: "Oh, Bob". Deliberation may be found.

But, upon what theory is one to predicate the homicide? One may assume that the assault caused an acute appendicitis which, in the course of events, became chronic, finally leading to operation. The prosecutor, in such a case, would, however, meet with medical testimony that acute appendicitis cannot be caused by such external violence.¹⁴⁷ This may create a sufficiently reasonable doubt. Defendant may have to be acquitted.

If one were to assume that a chronic appendicitis had been aggravated by the assault, less opposition by medical experts might be expected. But, again, the appendix was removed approximately seven months after the crime was committed. This is a relatively long time. The chronic appendicitis may have flared up from natural causes. The victim may have recuperated from the effects of the violence. The fact is that he had left the hospital and that he had been readmitted. This points to recuperation, even though the victim had suffered constantly until the operation was performed. Such circumstances will make the state's theory not so certain as to exclude any other reasonable theory compatible with the innocence of the prisoner. On the other hand, the constancy of the physical complaints make the theory of the prosecution the most likely to lead to a The "time" element, "location" criterion, and conviction. other yardsticks would have to be given serious attention by the prosecutor in such a case and in others involving appendicitis.

 ¹⁴⁶ As to intervention of third parties in criminal cases, see 13
 R. C. L. 751, Sec. 57, Perm. Supp. Ed.
 ¹⁴⁷ See testimony of Dr. Britt in that case.