

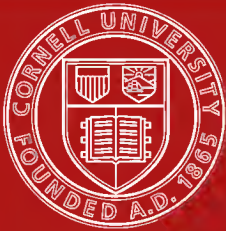
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No. 5

PANAMA-PACIFIC EXPOSITION  
MEMORIAL PUBLICATIONS OF THE PRUDENTIAL  
INSURANCE COMPANY OF AMERICA

THE DOCUMENTARY  
HISTORY OF INSURANCE

1000 B. C.—1875 A. D.

1915

PRUDENTIAL PRESS, NEWARK, NEW JERSEY

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## PREFACE

A comprehensive historical account of insurance would make an important and useful contribution to knowledge. Insurance within the past generation has assumed a position of enormous social and economic importance. As an element of commerce, insurance in all its branches has become indispensable. As a factor in human progress, insurance ranks foremost as a means of providing the required security against the inherent uncertainties of human life. The historical documents of insurance are evidence of its gradual development from primitive origins to a high degree of modern perfection in matters of detail. No branch of historical research is likely to prove of greater practical value than insurance. Every other social or economic institution is more or less related to its development. The place of insurance in the Law Merchant is well established by indisputable, though more or less fragmentary, documentary evidences. Research in this direction should bring to light much valuable information, useful not only to students of insurance, but also to those interested in the historical development of commerce and navigation. The evolution of the fundamental principle of contributionship, which underlies all insurance, can be traced by an almost unbroken record from the Rhodian Sea Law, which dates from about 1000 B. C. The present effort is limited to a brief presentation of the salient facts of the history of this great institution from the earliest times to the establishment of Industrial insurance in America, in 1875. Within the unavoidable limitations of space it has not been feasible to do more than visualize the most interesting documentary evidences of insurance progress, with a due regard to the preëminent importance of the life insurance branch of the business, which in its totality has become universal and all-comprehensive throughout the civilized world. The forty charts shown on this occasion exhibit either the original documentary evidence of insurance methods or facsimile reproductions of original documents. It would obviously not have been feasible to have exhibited the original works on insurance in the library of The Prudential, many of which, if lost, could not be replaced. In a number of cases, however, original documents are shown and in some cases rare illustrations, which have probably never before been made public. The following brief descriptive account refers to the forty charts, shown in five cases under glass for the proper protection of the exhibits.

THE PRUDENTIAL INSURANCE COMPANY OF AMERICA

Home Office, Newark, N. J.

ENGLISH TRANSLATION OF THE EARLIEST KNOWN  
CONTRACT OF INSURANCE\*

In the name of God, Amen. I, Georgius Lecavellum, citizen of Genoa, acknowledge to you, Bartholomeus Bassus, son of Bartholomeus, that I have received and accepted from you in Genoa, one hundred and seven pounds (of silver) as a free and friendly loan. I renounce every advantage in law of requiring proof of having acquired, accepted or counted said money. These one hundred and seven pounds, in Genoa, or its equivalent in money, I agree and promise in solemn covenant to return and restore to you or your acknowledged messenger by myself or my representative.

Being well preserved and sound in mind, that if your ship, called the Santa Clara, which is now being prepared in the port of Genoa, God willing, to go and sail presently to Majorca, shall have gone and sailed, having been navigated by direct route from the port of Genoa to Majorca, shall have arrived at that place safe and sound before the expiration of the next six months coming, then in that case the present instrument is null and void as if it had not been made. I personally assume all the risk and responsibility for said amount of money until said boat shall have arrived at Majorca, being navigated by direct route as above. And also if said boat shall be safe and sound in some other place, before said six months, the present instrument is likewise null and void as if it had not been made. And likewise if said boat shall have changed its course said instrument is null and void and as if it had not been made.

In said manner and under said conditions I promise to make said settlement, otherwise I promise to you to pay and incur the penalty of double the stipulated amount of said money together with restitution of damages and expenses which may arise on that account or be sustained in litigation, the aforesaid remaining secure under the pledge and security of my property, goods and possessions.

Made in Genoa, in a room in the house of Carlus and Bonifacus brothers of Ususmares, in the year from the birth of our Lord 1347, following the custom in Genoa, on the 23d. day October about eventide.

Witnesses Nicolaus of Tacius, draper, and Johannes of Rachus son of Bonanatus a citizen of Genoa.

\* Chart No. 206.



## Chart No. 201

THE ISLAND OF RHODES, B. C. 1000\*

### *The Rhodian Sea Law and the Principle of Contribution*

The Rhodian Sea Law, of which the original text, in part, has been preserved and made accessible in the great work of Ashburner, in 1909, provided, according to the English text, that "If a ship is caught in a storm and makes jettison of its cargo, and breaks its sailyards and mast and tillers and anchors and rudders, let all these come into contribution together with the value of the ship and of the goods which are saved." This fundamental principle of contribution underlies all insurance. As pointed out in the classical report of the first Committee on Friendly Societies (1825), "Wherever there is a contingency, the cheapest way of providing against it is by uniting with others, so that each man may subject himself to a small deprivation in order that no man may be subjected to a great loss." The Rhodian Sea Law is the most ancient principle governing commerce by sea which has been preserved and the law was in its time of such superior excellence that it was engrafted by the Romans into the Justinian Code, A. D. 533. According to the English text, "The Rhodian law provides, that, if goods are thrown overboard in order to lighten the ship, what is sacrificed for the common benefit should be made good by a common contribution." The Rhodian Sea Law was first quoted in an American Admiralty Decision of 1795, in the case of Thompson, Jacobson and others vs. the Ship Catherina, and thus made to apply as a ruling principle in American admiralty law, which may be said to govern the construction of all marine contracts of the present day. In addition to the Greek and Latin texts of the Rhodian Sea Law, the chart shows a map of the Island of Rhodes and a reproduction of the harbor, after the painting by Turner.

## Chart No. 202

THE ROMAN EMPIRE, A. D. 133

### *Burial Society (Collegium Cultorum Dianae et Antinoi), Lanuvium*

In 1816 in an excavation near Rome a tablet was found in the ruins of the Temple of Antinous which contains in their entirety the rules of

\*The date 1000 B. C. is only approximate. Some authorities place the earliest references to the Rhodian Sea Law at 900 B. C.; others at a later period. The term is used either in the singular or the plural. The Sea Law was first published in 1561. There are six chapters in the Sea Law which deal with maritime loans. Loans of this character "often resemble an ordinary loan upon a contingency." The principles of average, jettison, and contribution were thoroughly well understood in ancient times, and they all find expression in the Rhodian Sea Law. According to Ashburner, "There is no question here of a sacrifice for the common safety. It is only necessary that a loss shall occur in the course of the maritime adventure for which neither the owner of the property lost nor any other partaker in the maritime adventure can be held responsible. The result of the principle is that, by entering into the maritime adventure, you insure to a certain extent the ship on which you sail and the goods of your co-adventurers, while on the other hand you are insured to the same extent by the owners of ship and the other goods on board." This properly constitutes the fundamental principle of all insurance.

a burial society, as it now would be called, or, in the Latin, a collegium, which appears to have combined social and economic functions on the principle of a stated contribution, primarily for the purpose of providing for the decent and ceremonial burial of the dead. The chart shows, first, the original Latin inscription as derived from the work by Mommsen\* and, second, the English translation as given by Lambert in "Two Thousand Years of Gild Life." The chart also exhibits a map of the vicinity of Rome, indicating the location of Lanuvium, and a photographic reproduction of a sketch of a temple of the period, together with a portrait of the Emperor Hadrian, during whose reign, in the year 133 A. D., the society or gild seems to have been established. The great historical importance of this document consists in the evidence that at this early period the economic necessity of a mutual aid society was clearly recognized, for the gild at Lanuvium was but one of many typical of this period of the Roman Empire. Some of the rules of the gild of Lanuvium conform quite closely to the regulations of the English gilds of the 13th and 14th centuries, which, though derived from preëxisting Anglo-Saxon institutions, may quite probably have in part had their origin in these ancient Roman institutions, which may have been brought to England during the period of the Roman invasion.†

### Chart No. 203

#### ROMAN EMPIRE, A. D. 220

##### *Roman Life Table for the Calculation of Annuities and Perpetuities*

In a letter addressed to the late Sheppard Homans, a well-known actuary of his time, Justice J. P. Bradley, of the United States Supreme Court, and at one time the actuary of the Mutual Benefit Life Insurance Company, contributed a brief historical account of a Roman Life Table derived from the Justinian Pandects, attributed to Ulpian, a great lawyer of the period and himself one of the most eminent commentators on the Justinian Code. It is not known upon what basis this table was constructed, but it conforms in a general way to the observed law of human decrement with increasing age. The chart shows the Ulpian Life Table, as expressed in Years Purchase as given in an article by Hendriks, contributed to the Journal of the Institute of Actuaries in 1851, together with an outline of the

\*Mommsen: "Sodales legem quam volent, dum ne quid expublica lege corrumpant, sibi serunto."

†For suggestive references to the Anglo-Saxon gilds, see "The History of Crime in England," by L. Owen Pike, London, 1873, Vol. I, pp. 23 et seq. Also, "The History of the Anglo-Saxons," by Sbaron Turner, Philadelphia, 1841, Vol. II, ch. 10, and, with special reference to burial ceremonies, ch. 14. Two additional works of great value in this connection are a brief treatise on "The History and Development of Gilds," by Lujo Brentano, London, 1870, and the reprint of the original ordinances of more than one hundred early English gilds in the publications of the Early English Text Society, 1870, reprinted in 1892. (This volume also includes the essay by Brentano.) A brief but interesting discussion of Anglo-Saxon gilds occurs in the "Anglo-Saxon Home," by John Thrupp, London, 1862, pp. 160 et seq.

Expectation of Life at the time of the Roman Empire, compared with the corresponding Expectation of Life for England and Wales for the decade ending with 1900. The chart also exhibits a reproduction of the text of Justice Bradley's letter and a brief supplementary note to the effect that "Ulpian's Table was officially authorized for the valuation of life annuities by the Tuscan Government in an Act passed under date of December 30, 1814. The table constructed by him was the most accurate and useful in existence until the close of the 17th century. It is the first known measure of life annuity values, graduated with reference to age."

### Chart No. 204

LAWS OF OLERON AND WISBUY, A. D. 1266-1798

#### *Compulsory Sickness Provision for Mariners*

These ancient sea laws established the principle of care and protection of seamen in sickness and distress. The Laws of Oleron, which is a small island off the coast of France, were first published in 1542, but they apparently date back to the early part of the 13th century. The Sea Laws of Wisbuy, which is an ancient town on the Island of Gothland, in the Baltic Sea, date back approximately to the year 1288. Some writers hold that they were more ancient than the Laws of Oleron. The first definite reference to insurance appears in Article LXVI in the Laws of Wisbuy, which reads that "If the merchant obliges the master to insure the ship, the merchant shall be obliged to insure the master's life against the hazards of the sea." "Here," in the words of Parsons, in his treatise on Maritime Law, "is a distinct recognition of the contract of insurance; and in terms which imply that it was familiarly known to mercantile persons." Article VII of the Laws of Oleron provided that "If it happens that sickness seizes on any one of the mariners, while in the service of the ship, the master ought to set him ashore, to provide lodging and candlelight for him, and also to spare him one of the ship-boys, or hire a woman to attend him, and likewise to afford him such diet as is usual in the ship; that is to say, so much as he had on shipboard in his health, and nothing more, unless it please the master to allow it him; and if he will have better diet, the master shall not be bound to provide it for him, unless it be at the mariner's own cost and charges;" etc. The same provision occurs in other sea laws, including the Laws of Wisbuy, the Hanseatic Laws, the Sea Laws of the Low Countries, etc. It was thus that the compulsory sickness provision for seamen became the universal rule of maritime nations, and acting upon this principle, the United States Congress in 1798 established the United States Marine Hospital Service on the basis of compulsory deductions from seamen's wages \*

\*Most of the ancient sea laws were reprinted in the treatise by Magens, first published in German, Hamburg, 1753, and subsequently in English, London, 1755. An excellent work of reference on the law

## Chart No. 205

ENGLAND, A. D. 1283-1385

### *Gild Ordinances Regarding Burial and Support of the Poor*

The Gilds of the Middle Ages, as one of their functions, provided as a rule for the decent burial of their members and adequate support in sickness or poverty. Many original Gild ordinances have been preserved and have been reprinted in the publications of the Early English Text Society, with an introduction by the late Toulmin Smith. The chart gives brief extracts from these ordinances, covering the period 1283-1385, but all typical of the time. The extracts are derived from the article on Gilds in Walford's *Cyclopædia of Insurance*. The Gilds were among the most ancient social institutions, and even in China they typify the spirit of Chinese philanthropy as the equivalent of applied doctrines of mutual aid. The Gilds, together with the monasteries, secret fraternities and hospitals under ecclesiastical administration, were abolished by Henry VIII in the year 1545, and their funds and possessions were confiscated by the state.\*

## Chart No. 206

ITALY, A. D. 1347

### *The Earliest Known Contract of Insurance*†

The reproduction of this contract is derived from an early translation of an Italian treatise on commerce based entirely on original documents discovered in the archives of Pisa. The carefully framed phraseology of the contract, dating from the middle of the 14th century, suggests that the practice of insurance by that time had become practically universal with the maritime nations of the period. The chart exhibits both the original Latin and the English translation of the text.

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of maritime commerce was published by James Reddie (London, 1841), but the most useful source of information is the elaborate work of Pardessus, entitled "Collection des Lois Maritimes," a copy of which treatise, in seven volumes, is in the law library of The Prudential. The laws of Oleron were reprinted in the Black Book of the Admiralty, London, 1871, of which a copy is in the New York public library. The title page in the chart has been derived from this work. The laws of the United States for the government and regulation of seamen in the merchant service relating to this period, and the provision for compulsory insurance, are contained in the Appendix to the first volume of Peters' Admiralty Decisions, Philadelphia, 1807.

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\*See in this connection "The Gilds of China," by H. B. Morse, London, 1909, "Die Gilden in den Holsteinischen Elbmarschen mit Besonderer Berücksichtigung des Versicherungswesens," an inaugural dissertation by Julius Kähler, Itzehoe, 1904, and the "English Craft Gilds and the Government," by Stella Kramer, New York, 1905. The most recent discussion of the Gild system and its particular relation to the development of life insurance is to be found in "An Introduction to the History of Life Assurance," by Fingland Jack, London, 1912.

†This contract is printed in full in the original Italian, together with other important documents, in the chapter on Sales and Contracts of "An Essay on the Early History of the Law Merchant," by W. Mitchell, B. A., Cambridge, 1904. For English translation see page 4 of this publication.

## Chart No. 207

ITALY, A. D. 1523

### *Government Supervision of Insurance*

The development of marine insurance during the early part of the 16th century attained to such proportions that a more or less drastic form of government regulation of insurance practices became necessary. One of the earliest laws is the Ordinance of Florence, which was then one of the leading commercial powers, dated January 28, 1523. On account of its length, it has not been feasible to reproduce the original ordinance in its entirety, but the chart gives, first, the English translation of a section, as derived from the classical work of Magens, second, a portion of the original Latin and an early German translation of the same, and, third, in English, a copy of the form of policy prescribed by this early ordinance, as a concrete illustration of the relatively high degree to which the practice of insurance regulation had developed by this time.\*

## Chart No. 208

ENGLAND, A. D. 1547-1686

### *Early Marine and Fire Insurance Policies*

The practice of insurance, in the modern acceptance of the term, had its origin in Italy, particularly Lombardy and Florence. Through Italian merchants and navigators the practice of insurance was carried to England, the Low Countries and North Germany. The earliest existing insurance contract in England bears the date 1547, a large portion of the writing of which is in the Italian language. This policy is known as the "Broke Sea Insurance Policy," dated September 20, 1547, and is reproduced in the Select Pleas in the Court of Admiralty, published by the Selden Society. The chart exhibits a photographic reproduction of the original document, made available through the courtesy of the Honorary Librarian to the Insurance Institute of Manchester, Mr. William Witt Blackstock. The chart also contains a facsimile reproduction of the earliest known English fire policy, dated 1686, and derived from the same source, in connection with a dissertation on the historical literature of sea and fire insurance in Great Britain, 1547-1810. The fire policy is of special significance in that

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\*Aside from the work of Magens, the following are most valuable sources of information regarding the early history and practice of insurance: "A Complete Digest of the Theory, Laws, and Practice of Insurance," by John Weskett, Merchant, London, 1781; "The Universal Dictionary of Trade and Commerce," by Savary, translated and revised by Malachy Postlethwayt, London, 1751 (Vol. I) and 1755 (Vol. II); "Lex Mercatoria Rediviva: or, The Merchant's Directory," by Wyndham Beawes London, 1752. See, also, in this connection, the extended historical introduction on insurance in the treatise on "The Law and Practice of Marine Insurance," by John Duer, New York, 1845.

it is in printed form, so that obviously at this early date the practice of fire insurance had attained to considerable proportions.\*

### Chart No. 209

ENGLAND, A. D. 1560-1793

#### *The Development of Early Friendly Societies*

After the destruction of the Gilds by Henry VIII, numerous small mutual-aid societies came into existence, chiefly for the purpose of providing for the decent burial of departed members. The earliest known of these societies was The Incorporation of Carters, dating from the year 1560, which, according to Walford, "was probably previously a Gild, which, losing some of its privileges, reconstituted itself into an Association in the nature of a Friendly Society." The chart gives several other typical illustrations of such societies, down to the year 1719, and an extract from an Act passed in 1757, providing for a system of compulsory sickness insurance, limited to laborers employed in the unloading of vessels, and requiring the compulsory deduction of two shillings in the pound (sterling) out of the wages earned, which was considered sufficient to provide for the needs of widows and orphans of deceased laborers and for the burial of the dead. The first hypothesis of a law of sickness was advanced by Dr. Price in 1789, and in 1793 the first regulative Act was passed by Parliament, known as the Rose Act, for the protection and encouragement of Friendly Societies in the United Kingdom. The extracts given in the chart establish the historic continuity of the Friendly Society movement and the development of these useful institutions out of preëxisting Gilds and Fraternities. All of the extracts reproduced are from the article on Friendly Societies in Walford's Insurance Cyclopædia.†

### Chart No. 210

ENGLAND, A. D. 1601

#### *Origin of Government Supervision of Insurance in England*

This is an exceptionally interesting chart, including a facsimile reproduction of the first Act passed by Parliament for the regulation of in-

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\*The best account of early fire insurance companies and practice is a treatise by Charles Povey, compiled by Francis Boyer Relton, late Office Secretary of the Sun Fire Office, London, 1893.

†There is a mass of historical information regarding Friendly Societies in the reports of the Royal Commission on Friendly Societies, London, 1870-1874. Among extremely interesting early documents in the library of The Prudential are the following: "An Appeal to the Public on the General Utility of Benefit Societies, Instituted by and for the Relief of Their Respective Members," etc., London, 1792; "Tables Showing the Amount of Contributions for Providing Relief in Sickness and Old Age, for Payments at Death, and Endowments for Children, Computed by John Finlaison," London, 1833; "Report on Friendly or Benefit Societies, exhibiting the Law of Sickness, as Deduced from Returns by Friendly Societies in Different Parts of Scotland. . . Drawn up by a Committee of the Highland Society of Scotland," Edinburgh, 1824; "A Proposal for Improving the System of Friendly Societies, or, of Poor Assurance Offices," etc., by Jerome Count de Salis, London, 1814. An exceptionally useful work in connection with the study of Friendly Societies is "The History, Present Position, and Social Importance of Friendly Societies," by Charles Hardwick, London, 1859.

surance through a Court of Assurances. The Act was passed in the year 1601, or the 43d Elizabeth, which is also memorable as the year in which the English Poor Law came into being. The facsimile is derived from the survey of Historical Literature on Sea and Fire Insurance in Great Britain, by William Witt Blackstock. The chart also contains a reproduction of the parliamentary debates in connection with the bill establishing a Court of Assurances, the same having been introduced by Sir Francis Bacon, who probably drafted the bill, which on its second reading was committed to Sir Walter Raleigh. It has seemed appropriate to reproduce the portraits of these two distinguished Englishmen, whose names are inseparably connected with the history of England, and also, as is here shown, with the history of insurance.\*

### Chart No. 211

ENGLAND, A. D. 1622-1685

#### *Insurance as an Element of Ancient Commerce*

Insurance as an element of the ancient Law Merchant, or *Lex Mercatoria*, appears to have received its first systematic consideration by an English authority in a work published in 1622, of which a copy of the third edition, published in 1685, is the only one available in this country. The chart shows photographic reproductions of the more important pages of this work, obtained through the courtesy of the New York Public Library. The author of the work was Gerard Malynes, a merchant, who, aside from other matters, discussed in considerable detail the origin and practice of insurance, attributing the same to the Romans and subsequently to the Italians, who brought the custom first to the knowledge of the inhabitants of Oleron and later to England, where marine insurance became established among the merchants, who then met chiefly in Lombard Street. This gave rise subsequently to the phrase common to all early English and American marine insurance policies, that the interpretation of the contract should be in conformity to the practice and usages of Lombard Street. According to Blackstock, Malynes was a merchant of considerable reputation at the close of the 16th century and he attended the Committee on the Insurance Bill of 1601, establishing the Court of Assurances. This work is of great historical and practical importance and one of the first publications on insurance.

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\*For additional information regarding this Court of Assurances see Walford's *Insurance Cyclopædia*, article "Chambers of Insurance." Also, Park's *System of Marine Insurance*, Vol. I, p. xi, and Wambaugh, "Cases on Insurance," which gives in full the act establishing the Court of Commissioners. For a fairly full account see Postlethwayt's "Universal Dictionary of Trade and Commerce," London, 1751 and 1755, and the "*Lex Mercatoria Rediviva*," by Wyndham Beaves, London, 1752. An interesting letter with reference to the early practice of insurance, originally published in the *Post Magazine and Insurance Monitor*, of London, July 25, 1908, has been reprinted in my "Insurance Science and Economics," New York, 1911, p. 151.

## Chart No. 212

ITALY AND GERMANY, A. D. 1622

*Early Insurance Law, Custom and Usage*

In 1622 there was published at Cologne, Germany, an elaborate treatise on Commerce and Insurance, the title page of which, in a free translation, reads in part, "Decisions and Various Treatises on Trade and on matters pertaining to the same; in which are contained the writings and compositions of all authors previously referred to, principally Benvenuto Straccha, a most eminent lawyer, who has written on Commerce, Exchange, Agreements, Creditors, Sureties, Debtors, Bankrupts, Ships, Shipping, *Insurance*, Sales by Auction, and other affairs of trade; at the same time also are explained matters which are likely to arise in daily practice in connection with these topics. Now for the first time here in Germany they have been arranged in a new publication in the best way, enlarged for the convenience of those skilled in the law, compiled in a volume, and published with variety of styles and with separate imperial re-scripts." This venerable work is the oldest publication on insurance in the possession of The Prudential, and the chart exhibits the beautifully engraved title page, a photographic reproduction of the volume itself and the first page of the topical index. Of Straccha himself nothing appears to be known definitely, except that he was an Italian jurist of Ancona, who lived about the year 1550. A treatise on Insurance by Straccha was published in Amsterdam in 1658, in Latin. The work is an excellent illustration of the practical importance of insurance as an element of early commerce and its recognition as such by the most eminent jurists and merchants of the time.

## Chart No. 213

HAMBURG, GERMANY, A. D. 1628-1750

*Early German Insurance Practice*

The practice of insurance, having been developed to a considerable extent in Italy, was carried by the Italians first to the Netherlands, particularly to the great city of Bruges, which appears to have been the first center of northern commerce to recognize the practical utility of the insurance contract. There are records of insurance policies dating from the year 1359, in Italian, contracting for insurance between Genoa, Naples, etc., and Bruges. In the commercial transactions of the period 1444-1459 the insurance contract is called the "assurance obligation." In the year 1469 the expression "letter of assurance" is used and during the period 1468-1470 the term "assurance policy," or, in brief, "policy," came into use. In the original Italian, the expression was "scritta di sigrta." From the Nether-



lands the practice of insurance was carried to the Free City of Hamburg, then one of the most important members of the Hanseatic League. The chart shows a reproduction of a policy of the year 1628, the printed portion of which is in the Dutch text, and the written portion of which is in the Low German of the period.\* The chart further shows a printed reproduction of the earliest known life and ransom policy, of about the year 1750, in the original German, as well as in the English translation, derived from the work of Magens. The practice of ransom insurance became subsequently well established in the United States for the protection of American captains trading on the Barbary coast of the Mediterranean.†

### Chart No. 214

HOLLAND, A. D. 1671-1749

The beginning of modern life insurance may be said to date from the time when John De Witt, Grand Pensionary of Holland, and one of the foremost statesmen of the period, published his "Observations on Life Annuities," translated by Robert Gibbons Barnwell, U. S. Consul in Amsterdam in 1856, and published in New York, that year. The treatise by De Witt established the superior importance of strict conformity to the law of mortality in the calculations of premiums for insurance and the required consideration in life insurance finance of the principles of compound interest. De Witt was followed by other eminent Hollanders, who contributed much towards the theory of life contingencies, and the portraits of Huygens and Struyck are reproduced in this chart, together with a facsimile of a painting of the year 1749, commemorating the public and highly ceremonial establishment of a widows' fund.‡

### Chart No. 215

ENGLAND, A. D. 1677-1800

*Lombard Street, London*

Lombard Street appears to have been the meeting-place of London merchants from a time considerably anterior to the year 1547, which

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\*A full account of the early insurance history of the Hanse towns, by F. Plass and F. R. Ehlers, was published in Hamburg in 1902. The replica of the Hamburg policy of 1750 shown on this chart is from this work.

†For an explanation of the custom of Ransom Insurance, see page 304, "Lex Mercatoria Rediviva," by Wyndham Beawes, London, 1752.

‡Additional references to John De Witt and the early insurance history of Holland are the following: "John De Witt, Grand Pensionary of Holland, or Twenty Years of a Parliamentary Republic," by M. Antonin Lefèvre Pontalis, translated by S. E. and A. Stephenson, 2 vols., London, 1885; "Memoires pour Servir a L'Histoire des Assurances sur la Vie et des Rentes Viageres aux Pays-Bas," published by the Société Générale Néerlandaise d'Assurances sur la Vie et de Rentes Viageres, Amsterdam, 1898; "Les Oeuvres de Niclas Struyck" (1687-1769), translated from the Dutch by J. A. Vollgraff, published by the Société Générale Néerlandaise d'Assurances sur la Vie et de Rentes Viageres, Amsterdam, 1912; "Johan de Witt en Zijn Tijd," by H. S. M. Van Wickevoort Crommelin, published by the "Conservatrix" Life Insurance Company, Amsterdam, 1913.

is the date of the Broke policy, the oldest existing insurance contract in England. A clause in the contract reads, in the quaint English of the period:

*"It is to be understoode that this preasente writinge hathe as muche forse as the beste made or dicted byll of surance which is used to be made in this Lombarde Streete of London."*

Italian traders and immigrants to England during the 13th and 14th centuries had mostly come from Lombardy, in northern Italy, and it is a safe assumption that, being chiefly merchants, money-changers, pawn-brokers, etc., they brought with them the practice of insurance, just as they are deemed to have introduced bills of exchange.\* By 1677 Lombard Street had become the established center of insurance, and the reference in English marine insurance policies to the customs and usages of Lombard Street has continued to the present day. The chart shows two ancient maps of Lombard Street, dating from 1677, and several pictorial illustrations of the street and its buildings down to the early part of the 19th century.

### Chart No. 216

ENGLAND, A. D. 1680–1914

*Lloyd's*

The history of Lloyd's is, in a large measure, the history of marine insurance. This name is derived from the Coffee House kept by Mr. Edward Lloyd, in Tower Street, London, in the 17th century, where underwriters met to transact their business. In 1692 Lloyd's Coffee House was removed to Lombard Street, and in 1774 Lloyd's, which by this time had become an association of marine underwriters, left the Coffee House in Lombard Street for premises in the Royal Exchange, where it has continued in business to the present time. This chart is therefore of unusual historic interest. It includes a copy of a policy dated January 20, 1680, and preserved at Lloyd's, which, in modern English, emphasizes all of the essentials of the underwriting practices of the period as they have been preserved and continued to the present time. The term "underwriter" had its origin in the practice of each individual on assuming a portion of the risk to place his name under the policy opposite the amount of risk assumed. The chart also contains an excellent early lithograph of Lloyd's Subscription Room and pictures of the Royal Exchange of 1620 and 1912. To the right of the chart is exhibited an original copy of *Lloyd's Evening Post*, dated February 9–11, 1785, containing a return of the amount paid in taxes on policies of insurance, printed by order of the House of Commons. Below is a reprint of the earliest

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\*The influence of Lombard immigrants on the commerce and insurance of England is fully discussed in Martin's "History of Lloyd's," London, 1876, pp. 17-32.

known Lloyd's policy issued in the United States, containing, with other names, the signature of Stephen Girard.\*

### Chart No. 217

FRANCE, A. D. 1681

#### *Marine Ordinances of Louis XIV*

This remarkable code ranks foremost in the documentary history of insurance. The world is indebted to the genius of Colbert, the celebrated Minister of Finance of Louis XIV, for this formidable piece of legislation, of enduring value to the entire world. The code may be said to form the basis of French commercial law, and many of its excellent provisions were subsequently adopted by all other civilized countries. These ordinances appear first to have been quoted in American literature in the case of Morgan and Price vs. The Insurance Company of North America, decided by the Supreme Court of Pennsylvania in 1807. The chart is of unusual interest and gives in detail extracts from the French and English texts relating to the contract of bottomry, the contract of marine insurance, the practice of life insurance and of ransom insurance, the former being unconditionally prohibited and the latter, as a matter of commercial necessity, being allowed. The chart also gives the original French text of the introduction, as contained in the classical collection *Le Loi Maritimes*, by J. M. Pardessus.† The chart is further illustrated by a portrait of Louis XIV and of M. Colbert.

### Chart No. 218

ENGLAND, A. D. 1693

#### *The Breslau Table of Mortality*

The science of life insurance rests upon the fundamental principles of the law of mortality and compound interest. The fact that the chances of death vary with every year of life was not clearly recognized until the end of the 17th century. Ulpian's famous table of A. D. 220 merely approximates the rate of mortality, though with some approach to accuracy. A persistent effort to visualize the varying chances of death,‡ according to age and condition of life, may be seen in

\*For a full account of Lloyd's, see "The History of Lloyd's and of Marine Insurance in Great Britain," by Frederick Martin, London, 1876, and the sketch of "Lloyd's, Yesterday and To-day," by Henry M. Grey, London, 1893. For an interesting discussion of the origin of Lloyd's Coffee House and the use of Lombard Street for commercial and insurance purposes, see Wilson's "Description of the New Royal Exchange," London, 1844. "The Machinery of Lloyd's" has been fully described in two lectures by Sir Henry M. Hozier, the Secretary of Lloyd's, 1874-1906.

†A complete English translation of this ordinance is contained in Volume I of the Admiralty Decisions in the District Court of the United States for the Pennsylvania District, by the Hon. Richard Peters, Philadelphia, 1807. This work also contains an English translation of the laws of Oleron and Wisbuy, as well as of the Hanse towns.

‡For a brief discussion of certain problems of mortality, see an essay on "The Chances of Death and the Ministry of Health," Prudential Press, Newark, N. J., 1914.

the pictorial representation of the Dance of Death during the Middle Ages. The first table of mortality in conformity to scientific principles was constructed in the year 1693 by Edmund Halley, the famous astronomer, on the basis of the mortality returns of the city of Breslau, of the Province of Silesia, Germany. The resulting "estimate of the degrees of the mortality of mankind" was communicated by Halley to the Royal Society and subsequently published in the Philosophical Transactions. The chart shows, first, in part, a reprint of the original paper, second, a graphic demonstration of the law of mortality, as illustrated by the number, out of a thousand born, surviving to specified ages, as determined by Halley for the year 1693, and, third, the corresponding information for England and Wales for the period 1891-1900. The results are in marked contrast and establish the very considerable improvement in human longevity during the long intervening period of time. Finally, the chart, as a tribute to the author of the table, includes a portrait of Edmund Halley, of an early period of the art of steel engraving. Halley's Table of Mortality was specifically constructed, as indicated by the table, for the purpose of providing a scientific basis for the correct ascertainment of the cost and the principles of premium calculation in the assurance of lives.

### Chart No. 219

ENGLAND, A. D. 1706

#### *The Amicable Society*

According to Walford, the formation of this society dates back to the 24th of January, 1705, but it was not until the 25th of July in the following year that the promoters, the Lord Bishop of Oxford, Sir Thomas Aelyn, Bart., and others, obtained from Queen Anne a charter (granted in the fifth year of her reign) "incorporating them and their successors, by the name above given, with power to purchase land, sue and be sued, and to have a common seal." This society was the first life insurance society established upon sound principles of mortality and finance, and though originally carried on with much difficulty, on account of the want of knowledge and lack of experience, the society enjoyed a prosperous career, until absorbed in the year 1866 by the Norwich Union Life Assurance Company. That the society at the outset was conceived as a trading concern is made evident by the inclusion of its original charter in the Collection of Select Charters of Trading Companies, A. D. 1530-1707, published by the Selden Society, London, 1913. It has not been feasible, on account of the length of this remarkable document, to reproduce the same in the chart, which shows among other interesting items a portrait of the Lord Bishop of Oxford, who was one of the founders of the society, a facsimile of the first contractual obligation in printed form, a pictorial illustration of

the southeastern prospect of the Church of St. Dunstan in the West, opposite which "at Mr. Hartley's house," a bookseller, the society was established. The chart further includes a facsimile reproduction of the first table of mortality from the experience of the society, covering the period 1706-1777. All of these illustrations are derived from a memorial published by the Norwich Union Life Assurance Company in 1908. The history of the Amicable, together with that of the London Equitable, established in 1765, is to a considerable extent the history of life insurance during its formative period.

### Chart No. 220

ENGLAND, A. D. 1725-1838

#### *Development of Actuarial Science*

Actuarial science comprehends that branch of applied mathematics which concerns itself with the periodical analysis of the experience of life insurance companies. Since the contracts entered into extend over a more or less extended period of years, coinciding in most cases with the subsequent after-lifetime of the insured, the ascertainment of the present value of the existing obligation is necessarily a somewhat complex and difficult process. Originally, in Roman courts of justice, an actuary was a person, according to Walford, "who drew up writings, contracts, etc., in the presence of the magistrate, whence his name, from "*actus*," an instrument. Subsequently, in the early years of insurance, the term "actuary" was more or less indifferently employed by persons familiar with mathematics and accounting, but as a rule not essentially with the actual practices and experience of life insurance institutions. With the rise of the business to considerable magnitude, the position of the actuary became better defined, and it is now strictly limited to an officer of an insurance company trained to apply the doctrine of mathematical problems to the needs of the life insurance business, inclusive of practically all the questions and considerations, whether legal or financial, which affect the insurance contract and have a bearing upon the correct valuation of policies, the adequate protection of the insured, the safeguarding of public interests and the required modifications from time to time of the methods employed. The official status of the actuary is, by modern usage, limited to persons who are members of recognized actuarial institutions or societies.

The development of actuarial science coincides, for practical purposes, with the history of life insurance. The chart contains facsimiles of nine standard works on the valuation of annuities and reversions, life contingencies, etc., published during the period 1725-1838. The earliest of these in the library of The Prudential is the treatise by De Moivre on "Annuities upon Lives: or, The Valuation of Annuities upon

any Number of Lives; as also, of Reversions. To which is added, An Appendix concerning the Expectations of Life, and Probabilities of Survivorship," published, London, 1725. Other important works are by Thomas Simpson, 1742, James Hodgson, 1747, Baron Francis Maseres (a friend of Benjamin Franklin), 1783, Francis Bailey, who in time became a leading authority, 1811, Benjamin Gompertz, who was the discoverer of new principles of the law of mortality and a new mode of determining the value of life contingencies, 1825, Charles Babbage, a learned authority on the practice of insurance, 1826, Francis Corbax, who on the basis of original researches established new natural and mathematical laws concerning population, vitality and mortality, 1833, and, finally, Augustus de Morgan, one of the most remarkable men of his time, who, in 1838, published a famous "Essay on Probabilities, and their Application to Life Contingencies and Insurance Offices."\*

### Chart No. 221

#### UNITED STATES OF AMERICA, A. D. 1735

##### *First Insurance Institution in America*

The first insurance institution established in the United States was the Friendly Society for the Mutual Insuring of Houses against Fire, organized under a Royal Charter, in Charleston, S. C., in the year 1735. The *South Carolina Gazette* contains frequent advertisements and notices of this society during the period beginning with November 15, 1735, and ending with February 19, 1741. The list of persons connected with the enterprise includes the names of some of the most prosperous and prominent men of what was then the Province of South Carolina. On November 18, 1740, a conflagration occurred which consumed half of the town. The loss was estimated at one and a half million dollars, and over three hundred houses were destroyed. This fire, in all probability, proved ruinous to the society, regarding which nothing is known subsequently to February 19, 1741. No policy or other documentary records appear to have been preserved, but the original agreement was, fortunately, printed in full in the *South Carolina Gazette* of September 27, 1735. A facsimile photographic reproduction of this agreement is shown on this chart. A brief ac-

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\*Among other extremely interesting early works on actuarial science and related subjects are the following:

"The Doctrine of Annuities and Assurances on Lives and Survivorships," by the Rev. Dr. Price, London, 1779; "The Principles of the Doctrine of Life-Annuities," by Francis Maseres, London, 1783; "The Doctrine of Permutations and Combinations, being an Essential and Fundamental Part of the Doctrine of Chances; as it is delivered by Mr. James Bernoulli," etc., published by Francis Maseres, London, 1795 (Maseres was the author of "The Principles of the Doctrine of Life-Annuities," published London, 1783); "A Practical Treatise upon the Law of Annuities," by Robert Wither, London, 1800; "The Doctrine of Interest and Annuities Analytically Investigated and Explained," by Francis Baily, London, 1808, "Tables for Renewing and Purchasing of Leases, Annuities, and Reversions," by Sir Isaac Newton (sixth edition), London, 1808. The third edition of this work was published in 1729, "Essai Philosophique sur les Probabilités," by M. Le Marquis de Laplace, Paris, 1825.

count of the society was published in the South Carolina *Historical and Genealogical Magazine* for 1907.\*

### Chart No. 222

UNITED STATES OF AMERICA, A. D. 1746-1800

#### *Early Boston Marine Insurance Policies*

In the natural course of its development, insurance as an element of commerce was carried from England to the colonial possessions of that country in America. The earliest existing American insurance contract is a policy issued in Boston on the 13th day of March, 1746, at an insurance office kept in King Street, near the Long Wharf, by an underwriter by the name of Dowse. This policy contains the customary reference to Lombard Street and the Royal Exchange. After the Revolution, this clause was eliminated from American policies and in place thereof, in a contract issued in Boston in 1784, the clause reads "And it is agreed by us, the insurers, that this Writing or Policy of Assurance shall be of as much Force and Effect as the surest Writing or Policy of Insurance heretofore made in any of the United States of America, or else-where." The chart contains facsimile reproductions of policies issued in 1746, 1784 and 1800, all typical of the period and representative of individual underwriting practices common to the country previously to the rise of insurance corporations. The facsimiles are from "An Account of the Early Insurance Offices in Massachusetts from 1724 to 1801," published in 1901, by E. R. Hardy, librarian of the Insurance Library of Boston.

### Chart No. 223

ENGLAND, A. D. 1752-1782

#### *Insurance as an Element of Commerce and Public Finance*

The place of insurance in the development of commerce and navigation is of such exceptional importance that the present chart has been included, additionally to other evidence, in support of the view that, by custom and usage, throughout the centuries, insurance has been an integral factor in the progress of commerce and navigation. In 1752 an important work was issued in London under the title "Lex Mercatoria Rediviva: or, The Merchant's Directory. Being a Compleat Guide to all Men in Business, whether as Traders, Freighters, *Insurers*, etc." The author of the work was Wyndham Beawes, merchant. The work was published with the approval of George II, who granted in return for its value a copyright for fourteen years. The chart, in addition to the royal authority and the title page, shows facsimiles of the Act of George III relating to stamp duties on policies

\*See also my "Insurance Science and Economics," p. 170, and *The Spectator*, N. Y., Dec. 31, 1914.

of insurance on property "in any Foreign Kingdom or State from Loss by Fire."

### Chart No. 224

ENGLAND, A. D. 1756-1828

#### *Early History of the London Equitable Society*

The London Equitable is at the present time the oldest existing life insurance corporation in the world. The Amicable, established in 1706, was absorbed by the Norwich Union in 1866. The Equitable has the unique distinction of never having employed agents, which largely accounts for the relatively small amount of insurance written during the long intervening period of years. The experience of the Society, however, has been invaluable to life insurance throughout the world. The chart is limited to a reproduction of four title pages of historical publications, dated 1756, 1780, 1823 and 1828.\* The mortality experience of the Equitable Society, according to Walford, "was the first pure life experience, as distinguished from annuitants and tontine lives, which became available for actuarial purposes." The first actuary of the Society was Mr. W. Morgan, who, in 1779, published a treatise on Annuities, and subsequently an introduction to the classical "Observations on Reversionary Payments," by the celebrated Dr. Richard Price. The chart also exhibits a diagram constructed after a table showing the probability of the duration of human life, according to the experience of the Equitable, published in 1828.

### Chart No. 225

NEW YORK, A. D. 1759-1800

#### *The Early New York Coffee Houses and Insurance*

The early insurance transactions were chiefly carried on in Coffee Houses, which were then the convenient meeting-places of merchants and navigators. They were exclusively individual transactions, each underwriter assuming a given portion of the total amount at risk. Sometimes a group of underwriters would call themselves a company, but it was not until 1792 that the first American insurance corporation came into existence. In New York City the Merchants' Coffee House was a center of insurance activity, as shown in the chart by the facsimile reproduction of a tablet recently erected under the auspices of the Lower Wall Street Business Men's Association. There has been preserved an advertisement of the so-called Mutual Assurance Company of New York, dated April 2, 1785, inserted by Carlie Pollick, of

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\*For a number of interesting historical references to the early history of the Equitable Society, see my lectures on the History of Insurance, published in the *Life Insurance Educator*, November and December, 1913, and January, 1914.



the Commercial Insurance Office, which reads "Fire Office—the Scheme of an Institution under the name of 'The Mutual Assurance Company of New York' for insuring houses and merchandise against loss or damage by fire, will be submitted to the citizens at the Long Room in the Coffee House on Friday next." According to Mr. A. Wakeman, the historian of the old Merchants' Coffee House of New York, "As early as 1759 insurance business was carried on at the Coffee House. Business was done twice a day, morning and evening." The chart shows a lithograph of the famous Coffee House Slip and Coffee House of New York, and also an illustration of lower Wall Street in 1800, showing the Tontine Coffee House on one side and the Merchants' Coffee House on the other. The following historical note regarding the business of Tontine insurance is from Valentine's Manual of the Common Council of New York, 1866:

"The Tontine Coffee-house, on the northwest corner of Wall and Water streets, was commenced about the year 1792 by an association of merchants, and finished in 1794, at a cost of about \$43,000, its professed object being to provide a convenient place of meeting for the merchants. It was erected on the northwesterly corner of Wall and Water streets, and was considered in its day a creditable piece of architecture. The ownership was established on the Tontine principle of survivors. Two hundred and three shares were subscribed for at £200 per share, each depending on a life selected by the several subscribers, who stated in a memorandum, at the time of subscription, the age, parentage, and sex of the nominee during whose existence he was entitled to receive his share of the net income of the establishment. On the death of the nominee the interest of the subscriber ceased, and his share became merged in those remaining. The shares were assignable and held as personal estate. The property being vested in trustees to hold until the nominees were reduced to seven, when the holders of the shares became entitled to a conveyance in fee in equal proportions."

The lithograph in the chart of the New York Tontine Coffee House is derived from the same source.

### Chart No. 226

UNITED STATES OF AMERICA, A. D. 1761–1772

#### *Early Annuity Plans and Projects*

The first life insurance efforts in America, as in England, were plans and projects for annuities. The need of providing for aged clergymen and their widows early suggested the establishment of ecclesiastical annuity societies. The earliest known project of this kind in England was started in 1698 by the Rev. William Assheton, D.D., Rector of Middleton in Lancashire, for the benefit of widows of clergymen and

others and for the settling of jointures and annuities. The first corresponding effort of this kind in the United States was the Presbyterian Ministers' Fund, established in the city of Philadelphia in 1761. A facsimile of a contract issued by this Fund in what was then the Province of Pennsylvania, dated May 22, 1761, is reproduced in the chart, together with three title pages of documents of considerable historical importance. Under date of February 7, 1769, the proprietors of the Province of Pennsylvania had issued a charter for the establishment of a "Corporation for the Relief of Widows and Children of Clergymen of the Communion of the Church of England in America." The chart shows the facsimile of the title page of a sermon by the Rev. William Smith, D.D., delivered in Philadelphia in 1769, published by order for the benefit of the charity, and also a title page of an exceedingly rare tract, issued in Boston in 1772, being the plan of a society for making provision for widows by annuities for the remainder of life and for granting annuities to persons of certain ages, with the proper tables, etc., by William Gordon. The Presbyterian Ministers' Fund continued as an ecclesiastical corporation until 1876, when the same was converted into a business corporation, which has continued in active and successful operation to the present day. The first American life insurance company, properly so-called, was the Pennsylvania Company for Insurances on Lives, established in the year 1812.

### Chart No. 227

ENGLAND, A. D. 1774-1854

#### *Early English Law and Litigation*

The development of insurance law naturally coincides with the growth of insurance as a commercial and social institution. Abuses and fraud were common to insurance during the early period, largely because of the fact that the principles and methods were but imperfectly understood. Miscalculations in premium rates frequently led to disaster, and harsh policy provisions were often essential as much for the protection of the public as for the security of the insuring company. In 1774 the first notable act for regulating insurance upon lives was passed by Parliament, under which all insurances were prohibited, excepting cases in which the persons insuring had an interest in the life or death of the person insured. This act is known as the Gambling Act and in the chart the same is reproduced in full, though not in facsimile. That the principles of the Gambling Act have become adopted in American law and legislation is made evident by the fact that the principle of insurable interest, as a condition precedent to the legality of the contract, has become universal throughout the world. In addition to the reproduction of the Gambling Act, the chart shows

facsimiles' of the title pages of five interesting tracts, including a full account of the proceedings in a case regarding pulmonary consumption, a report of the classical case of the Rev. Robert Gilbert vs. M. M. Sykes, being an action brought by the plaintiff to recover a sum of money won on the life of Napoleon, being purely a speculation dependent upon the duration of the Emperor's life. The other title pages include a treatise on the Law of Fire and Life Assurance, by Charles Ellis, issued in 1832, a controversial tract regarding an attack upon the Professional Life Assurance Company, by Edward Baylis, 1853, and a classical treatise on the Law of Life Assurance, by Charles John Bunyon, London, 1854.

### Chart No. 228

ENGLAND, A. D. 1783

#### *Northampton Table of Mortality*

The author of the Northampton Table was the Rev. Richard Price, who in 1771 published the first edition of his famous "Observations on Reversionary Payments," containing, with other instructive data on insurance, two tables of mortality based on the accounts of the ages at death of persons who had been buried in the Parish of All Saints, Northampton. In 1783 the fourth edition of the work was published in a more comprehensive form, with tables of money values for life insurance purposes, deduced from the Northampton Table of Mortality. As shown by the chart, the expectation of life was assumed to be very low and the resulting premium rates were, therefore, excessive, except for tropical countries. The Northampton Table continued in force for many years and it is occasionally employed at the present time. In 1815 Mr. Joshua Milne constructed a new table from the mortality data of the Parishes of St. Mary and St. Cuthbert, Carlisle, for the years 1780-1787. At the time of its publication the table was a decided improvement on the Northampton Table, its chief defect in connection with its use for life insurance purposes being the erroneous assumption regarding the proportion of the sexes, but otherwise the premium rates closely approximate the required degree of accuracy. The Carlisle and Northampton Tables were based upon data derived from localities not necessarily typical or representative of the United Kingdom. It was not until 1843 that the first life table based upon the census returns and deaths for the whole of England and Wales was published, followed by a second table, in 1853, and a third, for the period 1835-1854, in 1864. The author of these tables was Dr. William Farr, of the Registrar-General's Office, and Table No. 3 subsequently became known as Farr's Life Table, and as such it has been recognized as a standard for valuation purposes in connection with Industrial insurance. The chart is limited to a diagram illus-

trating the mortality curve, as deduced from the Northampton experience, together with the expectation of life for England and Wales for 1891-1900. In addition, the chart shows a title page of the work of Price on Reversionary Payments (1783 edition) and a portrait of Dr. Price.

### Chart No. 229

UNITED STATES OF AMERICA, A. D. 1788-1840

#### *Insurance in American Arithmetic and Accounting*

In its final analysis, insurance in all its branches is more a matter of simple arithmetic than of higher mathematics. From comparatively early times it has been the practice to include insurance problems in text-books on arithmetic, bookkeeping and accounting. The chart gives in facsimile the title page of the first American treatise on arithmetic, by Nicolas Pike, published at Newbury-Port, in 1788. Two pages of the contents are also reproduced, illustrating calculations in marine insurance and problems in annuities or pensions. The second insert on the chart is a facsimile title page of "The Counting-House Assistant," published in Pittsburgh, in 1818, also illustrated by a reproduction of the contents, in which insurance is included as one of the subjects of maritime law. The third insert is a reproduction of the title page of "A System of Practical Arithmetic for the Use of Schools; Adapted to the Commerce of the United States," by J. Walker, published in Baltimore, in 1819. From this interesting work four pages of the contents are reproduced, showing the expectation of life according to the Northampton Table of Mortality and problems in the calculation of life annuities. The fourth insert is the title page of a treatise on the Laws of Trade, by Jacob B. Moore, published, New York, 1840, with abstracts of the Bankruptcy Bill of 1840, then under consideration by the Assembly of the State of New York, including a suggestive reference to insurance.

### Chart No. 230

UNITED STATES OF AMERICA, A. D. 1789-1845

#### *Law and Legislation*

The first treatise on the law of insurance published in the United States was issued in Philadelphia in 1789, being a reprint of the "System of the Law of Marine Insurances," with three chapters, on Bottomry, on Insurances on Lives, and on Insurances against Fire, by James Allan Park. Numerous editions of this work exist, but the title page reproduced is of the first American edition. In 1810 the second edition (American) of an English treatise on the Law of Insurance, by Samuel Marshall, was published in Philadelphia. This work includes

numerous references to American cases, and the work was a standard work of reference for many years. What appears to be the first United States document on insurance was issued in the form of a Letter from the Secretary of the Treasury, transmitting a statement containing information in relation to the Incorporated Banks and Insurance Companies within the District of Columbia [1814]. An equally interesting document of historical importance, particularly with reference to the commercial aspects of insurance, is a tract entitled "An Argument in Support of the Marine Insurance Companies of Baltimore to the Congress of the United States, Praying Compensation for Losses Sustained under the treaty with Spain of the 22d of February, 1819," by Robt. B. Taylor, published, Norfolk, 1826. The first Treatise on the Law of Insurance by an American author was published in a second edition in 1840. The author of this work was Willard Phillips, who subsequently became a commanding figure in the development of insurance in New England. The work was published in Boston. Of even greater importance in the development of American insurance law and legislation was the issue in 1845 of an elaborate treatise on the Law and Practice of Marine Insurance, deduced from a critical examination of the Adjudged Cases, the Nature and Analogies of the Subject and the General Usage of Commercial Nations by John Duer, LL. D., one of the late revisers of the statute laws of New York. This work was published in two volumes in 1845 and to this day constitutes a standard work of reference in the settlement of difficult and involved questions in marine insurance law.\* In 1850 appeared a work on Admiralty, by Erastus C. Benedict, which included an extremely suggestive historical reference to insurance in a commission of Vice Admiralty, issued to the Hon. Richard Morris, dated October 15, 1762, which reads, in part, as follows:

*"George the Third, by the grace of God, of Great Britain, France and Ireland, King, defender of the faith: To our beloved Richard Morris, Esquire, greeting: We do by these presents, make, ordain, nominate and appoint you, the said Richard Morris, Esquire, to be our Commissary in our provinces and colonies of New York, Connecticut, and East and West Jerseys, in America, and Territories thereunto belonging, in the room of the former judge, deceased, hereby granting unto you full power to take cognizance of, and proceed in all causes, civil and maritime, and in complaints, contracts, offences, or suspected offences, crimes, pleas, debts, exchanges, policies of assurance, accounts, charter parties, agreements, bills of loading of ships, and all matters and contracts which, in any manner whatsoever, relate to freight due for ships, hired and let out, transport money or maritime usury, (otherwise bottomry), etc., etc."*

\*Of considerable interest in this connection is a tract entitled "A Curiosity of Law, or a Respondent in the Supreme Judicial Court, as a Judge in the General Court, and what possibly came of it," by Elizur Wright, Boston, 1866.

## Chart No. 231

UNITED STATES OF AMERICA, A. D. 1791

*Philadelphia Underwriters' Marine Insurance Policy*

This chart shows an original contract, issued in Philadelphia in the year 1791. The policy bears the signature of sixteen individual underwriters for sums from £100 to £200 sterling. The policy is of special historic interest on account of the fact that one of the underwriters (John Morton) was a signer of the Declaration of Independence.

## Chart No. 232

ENGLAND, A. D. 1792-1855

*Friendly Societies and Sickness Insurance*

The possibilities of utilizing life insurance methods in efforts to improve the economic condition of the poor were first suggested in a famous tract, entitled "Essays on Projects," by Defoe, the celebrated author of Robinson Crusoe, in 1697. It was soon realized that the thrift function, as reduced to its most simple form of individual saving, would be insufficient to meet the pecuniary needs of the poor in the event of sickness and premature death. A most interesting tract, suggestive of the early development of the function of saving, was published in 1677, under the title "The Worth of a Penny." It was not until near the end of the 18th century that the economic utility of friendly societies was clearly recognized, and in 1792, or the year before the passage of the Rose Act, a treatise was published, entitled "An appeal to the Public on the General Utility of Benefit Societies Instituted by and for the Relief of their Respective Members; Proving the Necessity of Securing their Property by the Sanction of an Act of Parliament, with Remarks and Observations on the Present System of the Poor-Laws." Four years later there was published a treatise on "The Prevention of Poverty by Beneficial Clubs," by Edward Jones. In 1814 Jerome Count de Salis advanced "A Proposal for Improving the System of Friendly Societies, or of Poor Assurance Offices; and, by Increasing their Funds, Rendering, in Process of Time, on the Principle of Accumulation, all Parochial Taxation for the Relief of the Poor unnecessary." The chart shows a reproduction of the title pages of these three publications, which are now extremely rare. In addition, facsimile copies of title pages are shown of a Report on Friendly Societies, exhibiting the Law of Sickness, as Deduced from Returns by Friendly Societies in Different Parts of Scotland. This was the famous report drawn up by the Committee of the Highland Society, which for the first time presented sickness rates derived from insurance experience. The report was issued in Edinburgh in 1824. A more important publication of Tables, showing the Amount of Contributions for

providing Relief in Sickness and Old Age, for Payments at Death and Endowments for Children, was published in London, 1833, by John Finlaison, Government Actuary, and Recommended for the Use of Benefit Societies by John Tidd Pratt. This treatise emphasizes the progress made in the scientific development of sickness insurance as a first requisite for the actuarial solvency of the societies transacting this form of insurance. John Tidd Pratt was the Registrar of Friendly Societies in England and it was largely due to his indefatigable efforts that the methods of government supervision and control over these societies were materially improved. In 1855 Pratt issued some "Suggestions for the Establishment of Friendly Societies with Tables of Contributions for Payments in Sickness, etc., and also for the Purchase of Government Annuities," authorized by the 16 and 17 Victoria, which laid the foundation for far-reaching improvements in friendly society management. All of the title pages reproduced in facsimile on this chart are of documents in the possession of The Prudential.\*

### Chart No. 233

UNITED STATES OF AMERICA, A. D. 1792

#### *The Insurance Company of North America*

This interesting chart contains eight facsimile reproductions of illustrations and documents having a bearing on the early history of the first insurance corporation established in the United States, in 1792, which has survived to the present day. All of the documents shown are derived from the history of the company, published in 1885. The chart shows the first office building of the company, occupied during the years 1792-1794, a copy of a page of the first book of accounts, a copy of an act passed by the General Assembly, April 2, 1793, for the incorporation of what was then called "The Insurance Company of North America." A portrait of Eben Hazard, secretary of the company, is shown, followed by the facsimile reproduction of four early marine and fire policies. The Insurance Company of North America had the right to transact life insurance business, but little was done in this field, which at the end of the 18th century was apparently of small promise in the United States. The first action on the part of the company with reference to the clause of the article of incorporation permitting life insurance was taken on January 20, 1794, when a committee was appointed to consider the issuing of a policy "for insuring persons against capture by Algerines." On February 11, 1794, a Captain John Collett was insured "on his person against Algerines and other Barbary Corsairs in a Voyage from Philadelphia to

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\*The Friendly Societies of England have been utilized to a considerable extent in the establishment of national insurance in Great Britain in 1911. What is called an "Approved Society" is practically a Friendly Society receiving the contributions and administering the benefits payable under the National Insurance Act.

London, in the Ship George Barclay, himself Master, Valuing himself at \$5,000," the premium being two per cent. This was apparently the first life policy issued by an insurance corporation in America. The practice to insure against the risk of capture was very ingenious, in that it provided the requisite amount usually exacted as ransom, which otherwise might not have been forthcoming. The practice was quite general at the time with Continental insurance companies, particularly those of Hamburg.

**Chart No. 234**

UNITED STATES OF AMERICA, A. D. 1797

*Original Policy Contract of the Insurance Company of North America*

The document shown on this chart is an original policy issued by the Insurance Company of North America and one of the earliest existing contracts of its kind. It is signed by Charles Pettit, the president of the company, whose portrait is reproduced on the chart. In addition, the chart shows a facsimile of the simple method of accounting in use by the company at the time. The policy is dated March 7, 1797.

**Chart No. 235**

UNITED STATES OF AMERICA, A. D. 1812

*Pennsylvania Company for Insurances on Lives and Granting Annuities*

All of the documents exhibited on this chart are originals. The policy is dated May 13, 1822. It is a contract of exceptional historic interest signed jointly by the president of the company, Mr. R. M. Patterson, and the actuary, Mr. Jacob Shoemaker. The chart also shows an original application for life insurance, a table of premium rates, and the title page of an address from the president and directors, together with a copy of a portion of the act incorporating the company, under date of March 10, 1812. A table of premium rates is reproduced below:

LIFE INSURANCE PREMIUM RATES (IN 1814)  
PER \$100 OF INSURANCE

Age	One Year Premium	Seven Years Annual Premium	Whole Life Annual Premium
15.....	\$0.99	\$1.25	\$2.12
20.....	1.50	1.62	2.39
25.....	1.68	1.77	2.65
30.....	1.82	1.92	2.93
35.....	2.00	2.13	3.28
40.....	2.23	2.43	3.72
45.....	2.56	2.79	4.29
50.....	3.03	3.34	4.99
55.....	3.57	3.96	5.85
60.....	4.29	4.80	7.00
65.....	5.23	6.09	8.62



## Chart No. 236

UNITED STATES OF AMERICA, A. D. 1818-1823

### *Two Early American Life Insurance Companies*

The documentary records of early American life insurance companies which have been preserved or made available are quite rare. The official literature is available to-day for only a few institutions organized during the first half of the 19th century. The chart illustrates two typical early insurance companies, by pages from the original prospectuses of the Union Insurance Company of New York, established in 1818, and the Massachusetts Hospital Life Insurance Company of Boston, established in 1823. The list of officers of the last-named institution shows that Mr. Nathaniel Bowditch was the actuary. The application for insurance was simple and the premium rates were limited to one year, seven years and for life. The chart also shows an original application for an annuity in trust as issued by the Massachusetts Hospital Life Insurance Company and the table of rates at which the company was willing to grant immediate annuities for \$100 on a single life. An interesting insert is a small table of endowments on children, beginning with birth and ending with the twentieth year, the amounts insured for to be payable at the age of twenty-one, if then alive.

## Chart No. 237

UNITED STATES OF AMERICA, A. D. 1823

### *Slave Insurance in the South*

This was an extremely interesting form of insurance, for the twofold purpose of insuring slaves as cargo under marine insurance contracts and of providing life insurance protection for the owners in the usual form. The business was carried on by quite a number of institutions previous to the outbreak of the Civil War. The chart shows an original contract issued by the Louisiana Insurance Company for the amount of \$25,200, the date of the policy being May 27, 1823. The policy insures the safe delivery of seventy-two slaves, valued at \$350 each, for the term of the voyage from Norfolk to New Orleans, at the rate of  $1\frac{1}{4}$  per cent. The policy specifically excludes the risk of natural death, insurrection, elopement, and suicide. The chart also shows an original copy of the prospectus of the Mutual Benefit Life and Fire Insurance Company of Louisiana and the rates charged for the insurance of negro slaves. In order to show the advantages to owners of negroes of insuring them, a list of the losses paid by the company, giving the

names of owners and the causes of death of slaves, is given.\* It is of interest in this connection to add that beginning with May, 1845, the New York Life Insurance Company insured slaves, and it is stated in the history of that company that of the first thousand policies issued 339 were on the lives of negroes. The amounts were usually less than \$500. The first death claim paid by the company was under a slave policy. The issue of such contracts was discontinued by direction of the trustees on April 19, 1848. Of equal interest is the early practice of the Manhattan Life of New York, which assumed risks on the lives of coolies transported to the Isthmus of Panama for the purpose of constructing the Panama Railway. An original policy of this kind has been preserved by the company, but it has not been feasible to show a facsimile of the same on the present chart.

### Chart No. 238

UNITED STATES OF AMERICA, A. D. 1830-1854

#### *Early American Insurance Companies*

This is a collection of title pages of early life insurance prospectuses, commencing with the proposals and rates of the Pennsylvania Insurance Company for Insurances on Lives and Granting Annuities. The company was incorporated March 10, 1812, under a perpetual charter, with a capital of \$500,000. This was the first American life insurance company. The office, in 1845, was at No. 66 Walnut street. The president of the company at that time was Mr. Hyman Gratz, and the actuary Mr. William B. Hill.

The Massachusetts Hospital Life Insurance Company was established in 1823. The title page of the Proposals is for the year 1835. The offices of the company at this time were at No. 50 State street, Boston.

The Rates and Proposals of the New York Life Insurance and Trust Company are for the year 1830. The office of the company was at No. 38 Wall street. The act of incorporation was dated March 19, 1830.

The first life insurance company of the central west was the Ohio Life Insurance and Trust Company, of Cincinnati. The first annual report was issued under date of December 24, 1835. The failure of the company in 1857 was the immediate cause of the panic of that

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\*Slave insurance was also transacted by the Southern Mutual Insurance Company of Mobile, Ala., which, under date of February 1, 1851, issued a special set of instructions, according to which slaves performing the duties of house servants, field hands, and general laborers, ages 20-30, were accepted at a premium of 4.5 per cent.; but for slaves employed as boat hands navigating waters emptying into Mobile Bay or engaged in the lake trade to New Orleans, a premium of 7.5 per cent. was charged. Another company transacting slave insurance was the Lexington Fire, Life and Marine Insurance Company, chartered by the Legislature of Kentucky in 1836. This company charged a premium of \$2.62 per \$100 of insurance on the life of a slave at age 30, whereas the corresponding rate on the life of a white person was \$1.31, or exactly one-half. For a brief discussion of insurance in the South, see my article "Life Insurance in the South," in "The South in the Building of the Nation," 1865-1910, Vol. 6, p. 625.

year. The life business of the company, however, was reinsured, and the policyholders sustained no loss.

The first company established in the United States on strictly mutual principles was the Mutual Life Insurance Company of New York, organized in 1842. The title page in the present collection is of a treatise on life insurance published by this company in 1844 as an explanation of the principles and of the useful application of the mutual system to the different situations of life, including a summary of its charter, its progress, terms and conditions of insurance, and mode of effecting it.

One of the earliest life insurance companies of the South was the Mutual Benefit Life and Fire Insurance Company of Louisiana, incorporated in April, 1849. This prospectus contains the plans, principles, regulations and rates. The home office of the company was at No. 38 Camp street, New Orleans.

A prospectus entitled, "Life Insurance, Its Principles, Operations and Benefits, as Presented by the Connecticut Mutual Life Insurance Company of Hartford," was published in 1852. The company had been incorporated in 1846.

An interesting tract circulated at about the same time was a small treatise on "Practical Reasons and Illustrations of the Necessities of Life Insurance as a Duty," published in New York, 1852.

One of the most interesting documents in this collection is the circular of California Life Insurance, offered by a company the name of which is not known, with a guaranteed capital of \$100,000, and an office at No. 4 State street. The circular was issued at Boston, October, 1849, or soon after the discovery of gold in California. The leaflet gives the premiums for the insurance of \$100 on the one-year, seven-year, and whole-life plans. It is particularly urged that, "Persons leaving for California may obtain all necessary information on application at the office, No. 4 State street."

The New England Mutual Life Insurance Company was incorporated in 1835 and commenced business in 1843. A prospectus on the basis, principles and regulations of the company calls attention to the fact that the net accumulations by November 1, 1855, had reached \$745,000. The president of the company was Mr. Willard Phillips, a distinguished authority on the law of insurance.

The Hartford Life Insurance Company was incorporated under date of May, 1849, with a capital of \$100,000.

The State Mutual Life Assurance Company, of Worcester, was incorporated in 1844, and the title page of the prospectus refers to the charter and by-laws, the guaranteed capital of \$100,000, and the explanation of the principles and plans upon which the company was established, with practical observations on the various situations and

circumstances in which life insurance may be employed, and the terms and the mode of effecting insurance. The office of the company was at No. 98 Main street, Worcester.

### Chart No. 239

ENGLAND, A. D. 1545-1854

#### *Evolution of Industrial Insurance in England*

In 1853 a Select Committee of the House of Commons, on Assurance Associations, made a report, which, with other important observations, included the suggestive statement that "Your Committee feel that the ground hitherto occupied by these useful institutions (Ordinary life insurance companies) has been comparatively limited and that their application is capable of a great extension not only among the higher and model classes of society, but also among the humbler classes, to whom it has recently been very considerably applied." Largely influenced by this suggestion, the Prudential Assurance Company of London, which had been organized for the transaction of Ordinary business, in 1848, commenced to issue, in 1854, policies for small amounts, on the principle of family insurance, with the premium payments collected weekly from the houses of the insured. The remarkable success of this new form of insurance was largely due to the indefatigable efforts of Mr. (afterwards Sir) Henry Harben, at that time the secretary and subsequently the president of the company. Industrial insurance forms the connecting link between the early provident institutions of England, as typified by the ancient guilds and the more modern burial and friendly societies. The chart includes a brief historical reference to the evolution of Industrial insurance and the chronology of the principal acts of parliament having reference to friendly societies and Industrial insurance companies. It has also seemed fitting to include in the chart an early portrait of Sir Henry Harben, who was born in 1823 and who died December 2, 1911. The Prudential Assurance Company, as measured by the number of policies in force (20,695,226 on December 31, 1913), is the largest life insurance company in the world.

### Chart No. 240

UNITED STATES OF AMERICA, A. D. 1875-1914

#### *Evolution of Industrial Insurance in America*

Largely influenced by the English agitation for reform in friendly-society management and general life insurance practice as reflected in some of the early reports of the Insurance Commissioners for Massachusetts and New York, Mr. (afterwards U. S. Senator) John F. Dryden, in 1875, established in the city of Newark, N. J., *THE PRUDENTIAL INSURANCE COMPANY OF AMERICA*, in

conformity to the fundamental principles of Industrial insurance, successfully developed by the Prudential Assurance Company of England. The original title of The Prudential Insurance Company of America was The Prudential Friendly Society, it having, at the outset, been Mr. Dryden's intention to develop a national provident institution insuring not only payments at death but also amounts payable in the event of sickness and small annuities in old age. Actual experience soon demonstrated that this project could not be carried through, and the business of the Company was therefore subsequently limited to the insurance of sums payable at death. In 1886, however, the Company commenced also the issue of Ordinary policies, and on December 31, 1913, 60.8 per cent. of the Company's business, as measured by amount, was on the Industrial plan, and 39.2 per cent. on the Ordinary plan. The chart exhibits four photographic illustrations of the buildings occupied by the Company at different periods, from a small basement office, at 812 Broad Street, to a group of four large office buildings, at 761 Broad Street, and adjoining properties. A model of the buildings is shown elsewhere in this exhibit. The chart also shows a photographic reproduction of the first application for insurance received by The Prudential and accepted on November 10, 1875, and an early steel engraving of the late Mr. Dryden, together with a brief historical note regarding the present status of Industrial insurance in the United States.















