CHAPTER 8

PRINCIPLES OF LIVELIHOOD AND BUSINESS FOR THE CURRICULUM

Everyone to enjoy the good things of civilization must *do business;* he must deal with others by buying or selling, or by giving or getting wages. The scientist or inventor or creative worker wants to spend no more time and attention than necessary to do it efficiently. He wants to be certain of a reasonable return for his effort, and he wants a clear conscience in the relation of business matters to his work.

The author financed his life-work of research by invention; by acting as consulting inventor or by selling his inventions. His interest was not in commercialization but in the mental methods involved, but he found it necessary to study inventors, promoters, investors, and business matters of exploitation. His own experience taught that a scientific investigator should as early as possible establish the basis for a life income before he becomes so engrossed in his work that business matters do not receive proper attention.

A Definition of Livelihood. By a "livelihood" is meant the earning of every purchasable or marketable thing required for an ordinary, happy, healthy, and normal *living.* If one is "earning a living" and it is a "good living" and not a "poor living" (as understood here and many other countries) it comprises the food he eats, the clothes he wears, a house to live in, a home for his family and movable possessions, treatments in time of sickness, a few books and pictures, the daily paper, a little money for recreation and travel, and enough money laid away to educate his children and take care of him in old age. It means, quite especially, all other things as are necessary and desirable to enable him to be on an *equal footing* with his fellows in the race of life. If it is a *little better* than an equal livelihood he will be glad, but if it is too much better he will not be happy, if he is sympathetic and conscientious. This idea of a livelihood also includes a *regular* maintenance of all these things, so that one will not have to accept money, food, clothing, shelter, nursing in sickness, burial expenses, or luxuries from another without earning them with labor or skill or paying for them with commodities or money.

A livelihood may be made in many ways. A person may get one of a certain limited kind without laboring for a wage, without fees, without selling his inventive or creative skill, and without

carrying on a business for profit, if he will live alone on a desert isle or in a forest, isolated from his fellows. A livelihood may be made among one's fellows by hunting or farming, or from wages received for daily labor, for skill at some craft, for work at a trade, as fees for professional work, as a price for creative work in the fine arts — and the amount received in all these cases in all ages of the world varies with the person's skill and knowledge and general effectiveness. In all this work there is no idea of profit; but a livelihood may also be made by carrying on a business for *profit.* As long as it is carried on for making a reasonable livelihood, it may be considered as one of the natural *livelihood occupations.* There is not a clear demarcation between a livelihood gotten by living on fruits in a forest, laboring for a daily wage, carrying on a business for profit, charging a professional fee, and selling one's inventive or creative work, because they are all occupations carried on for livelihood purposes.

A Definition of *Business for* Profit. The word "business" in the sense hitherto used means any occupation carried on for *profit.* The profit may come in the form of money, or as commodities having a higher exchangeable value in barter. Profit may be made by organizing labor and selling its products at a price higher than cost. Profit may be made by selling any of the earth's natural products at more than it costs to deliver them. Profit may be made by inventions, and by any of the various commercial transactions. Of course, a man may legitimately get his livelihood from profits. A profession is not primarily a mercantile business but can easily be operated as one (or carried on for love of it or for religious motives). A trade is an occupation involving the exchange of one commodity for another for profit, and one of these "commodities" may be labor of hand or brain.

If a person lives away from contact with his fellows he cannot take advantage of the special genius-capacities of others, or have brought to his door by barter or purchase the various desirable things from uttermost parts of the earth which would administer to his comfort and happiness. He will be deprived of all that cumulative inheritance of knowledge and art which constitutes civilization. If he would enjoy the good things of the earth and the advantages of civilization he must do *business;* that is, he must deal with others, by buying and selling, or by giving and getting wages. In civilization we are always exchanging something which we can readily get or make for something which we cannot so readily get or make, and in all such exchanges money and business methods are not only a great convenience, but almost a necessity.

The general term for trades of all kinds and among all

nations is commerce. The carrying on of trade and commerce and the carrying on of an industry is business; and all business exchanges are transacted chiefly by means of money or its equivalent.

The chief and perhaps only purpose of all trade and all industrial operations and of all business that has been transacted throughout the world's history has been the making of a profit for (1) livelihood and for (2) gratifying the desires beyond the needs of a livelihood. The making of a livelihood without profit, and the carrying on a business for profit, are herein studied as creative work in one of the distinct heurotechnical lines.

ELEVEN BASIC LAWS OF LIVELIHOOD AND BUSINESS

1. *The Fundamental Heurotechnical Principle.* The most fundamental heurotechnical conception is that the selection of one's natural vocation and best occupation should *precede* every other kind of preparations for livelihood and business, because it is the fundamental livelihood requisite, and the only way to get the right kind of persons in the right kind of business. To pass through life with the wrong vocation and wrong livelihood occupation is to be a business failure, and a successful livelihood may not be made. To guess at one's vocation and occupation is like grabbing a spade and trying to cradle wheat with it or like trying to dig a ditch with a scythe. It is of primary importance that one's vocation be carefully determined and the occupation capacities be tested. Knowing the normal vocation it will be easy to select the best livelihood occupation according to the *talents and acquired knowledge and skill and opportunities.* If this livelihood occupation is wisely chosen it will be a business asset, and this *intentional selection* of one's best occupation and opportunity is a *business method.* This entire heurotechnical program herein outlined is a *continuing* process of ever more and more accurately studying and determining one's best abilities and opportunities.

2. *The Vocational Law.* The livelihood should be selected to be the natural exercise of one's genius-capacities or dominant abilities. If in addition it is necessary to start a business for profit for making a livelihood, for disposing of heurids (inventions or products of creative work), or for money beyond the need of livelihood, then the business should be systematically developed out of one's predilections and genius-capacities, purposes and impulses-to-do and opportunities.

The human conscience in its growing recognition of justice and the whole human mind in its growing sympathies will ultimately rise to the application of the following laws.

3. *The Moral Law.* Every person who feels the sentiments of

fairness and justice and who loves his fellow men will, for the

[p. 164]
sake of his self-respect and sympathy, desire to earn his own livelihood, so as to be of no expense to others, so as to establish one of the essential conditions of individual mental freedom, so as to give expression to one of his creative capacities, and so as to establish a responsive working relation of selves and persons in his periperson.

The question of what constitutes an ample livelihood and the question as to how much money beyond the needs of a livelihood is right and best must be determined by considering what would be an expedient compromise between individual and social rights in a given world with a given population, reference being had to certain laws of personal and social evolution.

The Law of the Upper Average states that if the simple *average* of human achievement in any line of human effort be adopted as the ideal towards which the social whole is to strive, our racial standard in that line will not thereby be voluntarily raised because the average of human voluntary achievement is always less than its ideal. Therefore, some voluntarily other level lying between the simple average and the *best* (or highest) of human achievement should be the ideal towards which we strive. This is the Upper Average, and the halfway level between the average and the highest is the Middle Upper Average. It is obvious that killing off the unfit raises the racial average, and that killing off the best lowers it. Training the people will raise this average. It is also obvious that as opportunities vary this average may be maintained with greater or lesser difficulty.

4. *The Livelihood* and *Business Standard.* The average human achievement along these livelihood and business lines is the standard below which only the unfortunate will fall. The *mean* between this racial *average* and the *highest* of individual achievements in each line, called the Middle Upper Average, should be the ideal towards which the social whole should strive to lift its members.

5. *The Religious Law.* If a person of superior ability attain a business income greatly in excess of a certain Upper Average Standard he will arouse the disapprovals of his moral, ethical, and religious conscience by virtue of his sympathies for his fellows and his sentiments of fairness, *unless* he use it for the equal good of all; and he will cause social discontent unless his fellows appreciate the use he is making of his surplus.

6. *The Ethical Law.* The *social whole* will be living at an economic loss if each individual in that whole does not during his lifetime contribute the amount of one person's total livelihood. If

it support one person in idleness it will thereby steal just that much from all other persons.

Corollary 1. It is obvious that these laws apply to the person

[p. 165]
who inherits an estate and lives on the income and lives in idleness, thereby contributing nothing to the social whole for his livelihood.

Corollary 2. It follows that the making of a livelihood is a *moral* and *ethical* duty, and is therefore also a *religious* duty. It should concern each person much more than the matter of his own convenience, comfort, and pleasure.

In the definition of livelihood as fees, wages, salary, pay, and earned reward there is intended to be an implication of a kind of reward that is something more than an earned one; namely, an honorarium for distinguished public service or for a high order of heuric work for humanity.

7. *The Law of Honorary* Reward *for Heurids.* If a person's unusual genius-capacities by unusual effort enable him to discover, invent, or create ways to make labor more productive or to save labor or to cure disease or to give pleasure or in any way to supply what was needed, he is entitled to a reward beyond what would otherwise be the just limits of wages, fees, or profits as an encouragement of the most important kind of effort in the world.

From these laws it may be concluded that an ample livelihood may justly and wisely include not only all that is meant by a good living but also all the recreations and luxuries which one may earn as wages for one's labor, as prices for inventions or creative work, as fees for special skill, or as legitimate business profits to be used in original research, religiously espoused.

A reading of several histories of science and invention, and several annual summaries of the world's progress will give a fresh and vivid view of the transcendent importance of scientific discovery and technical invention, so that the value to the world may be duly appreciated of a new and true idea or invention or creative work. No argument will then be needed to convince that the inventor who in a day can devise a way to save a million dollars is worth more than his usual wages, and he is worth more than the half-awake fellow who inefficiently shovels dirt and has to be watched and prodded to do that. The discoverer of a way to cure an infectious disease is worth more than his usual professional fees and more than the physician who visits a patient or the nurse who attends. That is, there is a reward or honorarium beyond ordinary wages and fees, and which is not business profit. Yet it is pay beyond the needs of a livelihood that such inventors and discoverers should get, as (1) a reward or bonus for having

contributed to progress; (2) for having saved money; (3) as an inducement to other inventors and discoverers (so they may take the time and undergo the trials properly to prepare themselves); (4) and as the privilege and duty of society

[p. 166]
to its most useful citizens (for society should be willing to pay for what it gets, or it will fall short of social ethics). That is, society needs to give such honorariums for the encouragement of its own progress and in the spirit of fairness.

Needs Beyond Livelihood for Heurists. The heurist may desire to carry on experimental research and may desire to have leisure for systematic thought beyond his means, and this will be especially true if he happens to strike out in directions not appreciated, *at that time,* by his public. If the heurist is far ahead of his day and generation then he will almost certainly not be appreciated by his contemporaries. He may find himself so far ahead of his time as to lose its support, and even make his livelihood difficult. For these and other reasons it is *urgently advisable* that every student who has heuric ability shall make money beyond the needs of a livelihood, so he may, if he wish, carry on even expensive and extensive researches or engage in some other form of heuric philanthropy. He cannot depend on subscriptions and endowments, for his discoveries or creative work or insights may put him out of touch with the belief and appreciation of his age. Even high creative work in the fine arts is apt not to be appreciated. Consequently, it may be necessary to organize a heuric or other kind of business for profit.

8. *The Evolutionary Law of Business.* The principles of profit systems may be studied under the following three classifications showing steps in evolution. Business plans should fit into the Transitional System with recognition of evolutionary trends.

(a) There is the *Old System* of ill-gotten profits, the ideal of which is that of getting as much gain or profit out of each transaction as the seller's skill in scheming will enable. All kinds of extravagant praise of the vendible commodity, with a skillful hiding of defects, is "good business." The seller buys from the producer just as cheaply as possible and conceals from the buyer all information regarding the real value; places a fictitious value upon it and sells for as high a price as possible; and does as much cheating as possible in measuring out the goods.

The seller's profit comes out of the buyer as *money paid in large excess of what it costs to produce.*

This system developed various legalized methods of cheating and stealing and gradually forced on the producer a combination of circumstances which compelled him to sell the product of his labor

at so low a price that it barely enabled him to live and produce goods. This system made recent decades of finance notoriously tricky and unjust. Business under the Old System is based on the ideal that it is good business to make as big a profit as possible; this is the old ideal out of which we are evolving.

(b) There is the New or *Transitional System* of profits whose

[p. 167]

ideal is that of so organizing industrial and manufacturing activities that the actual producers will get a higher price than possible under the Old System, and the consumers will be able to buy at a lower price. The profit comes out of the buyer as *money paid in small excess of what It costs to produce.* This system beneficently gives the producer a better price, enabling him to live better, and ultimately thereby creates a better product; and coincidently makes him a better citizen. It beneficently saves the consumer from paying out as much money as before, enabling him to live better; he will consume more, which will still further benefit the producer, and coincidently the consumer becomes a better citizen. As compared to the Old System, this Transitional System takes as its profit *part of the money saved* to the producer and consumer. It is not merely less unjust than the old system, but it is actively just and beneficent, because it is an evolutionary step towards a still more just system.

Do not infer that the Old System is utterly to be condemned. It was the *best system* that could be developed by that degree of insight; and then as a system, it was usurped by pirates and badly administered.

The Transitional System has to some degree been politically foreshadowed by a few socialistic writers, but the evolutionary path was not clearly marked through the mazes of the unsystematized tendencies. Now and then there has cropped out in isolated individuals certain indefinite tendencies towards business ideals of another kind, and these naive tendencies systematically developed lead to a conception of a business that is not carried on for profit.

Contemplation of the Transitional System makes one feel that at last business is getting to be moral and ethical, and even religious. When once all this money that is thus saved shall have gone, for several decades, into the pockets of those to whom it rightfully belongs, there will be less illiteracy and crime and unhappiness in the world. The best minds in each trade and industry and profession will get freedom and time and means to expend thought upon the improvement of them. The world will then get along much better. Who can meditate upon these facts without deeply feeling the religiousness of normal and just

livelihood methods and of right business principles? It is at this point in the daily life of each individual that religion must take a firm hold if mankind is ever to become truly religious, or truly moral and ethical.

(c) There is the *Newer or Future System* in which scientific organization of the world's livelihood and business affairs will have become so completely taxi-functional that even the profits of the Transitional System, already reduced to a minimum, will

[p. 168]

be abolished. There will by that time be in the world so many persons with high genius-capacities and the world's industrial affairs will have been so well organized that organizers and promoters will have relatively much smaller influence on the industrial methods. Like the more medieval middlemen which preceded them, they will have done their work and will practically be eliminated. In their stead will be left the discoverers and inventors and creators and skilled superintendents, who with the producers and consumers, will cooperate to their mutual advantage, carrying on the industry *without profit* for their own and the world's livelihood. All monies needed for things other than livelihood will be subscribed by friends (or collected by voluntary taxes, which is the same thing); or that which is other than livelihood will be made by voluntarily donated labor. Under such a profitless system money will not so readily buy labor because the people will not need money so urgently as now. The superstition of the value of gold will disappear; and labor, rather than gold, will become the standard of value. Labor of one kind will be exchanged for labor of another kind; labor-units and not gold-units will become the standard. Labor-units will have graded values, according to the degrees of knowledge and skill. In such a system not money but *heurids* will have purchasing power.

The making of a livelihood will ultimately, when the majority are fitted for it, become a world problem. Food, clothing, and shelter will be inherited just as air now is, but each one will still have to do his share of the world's labor. When this struggle shall cease, then other struggles will take its place, and they will not be any less eliminative of the unfit. When people have time for other things, then they will labor for other desires and purposes a little higher in the psychologic scale. Then these subjects will take the place of the livelihood problem, for it is in reference to the moral, ethical, and religious problem of each one doing his part of the work of the world that the first steps in heurotechny will always need to be taken.

Further Remarks About the Profit System. Under the Old System profit is the aim and end of every business transaction.

The system aims to force the producer to take the very least and the consumer to pay the very most. Under the Transitional System profit becomes less of an aim and the production of adequate quantities of proper qualities of commodities becomes more of an end. It seeks less overwork and better work and more leisure for producers, and cheaper and better living for the consumers. It seeks the moral and ethical and religious growth of the producers and consumers as a result of moral, ethical, and religious business methods. It brings *the whole* of a person's

[p. 169]
abilities and the whole of science and art to bear upon these problems. It takes as profit part of the money which compared to preceding methods it saves. This system has been naively developing as a political principle for some decades, but it has been used only as a good way to make a quick profit by having something to sell which will save the buyer money, as an inducement to buy. It has not been formulated as a general principle or definitely put forward as a moral and religious method. As this transitional system merges more and more into the new or future system, there will be an ever more and more equitable exchange of labor and commodities, without profit; and it will thereby require *less and less labor to maintain the world's livelihood!*

The distinction between a livelihood earned by wages paid for one's natural abilities and one acquired by a business occupation not related to them is important, especially from the standpoint of morals, ethics, and religion.

The carrying on of a business for profit for the satisfaction of being rich and without purposive reference to the need of the world for that business or to one's need for moral development is inhibiting of personal and social rapport and is morally, ethically, and religiously wrong.

The ideal that a livelihood and business may be carried on so as not to violate moral, ethical, and religious laws is not new. The distinct doctrine that they should be carried on as a moral, ethical, and religious purpose and should be espoused religiously for the sake of one's moral, ethical, and religious growth, and that one cannot be moral, ethical, and religious without carrying on that kind of activity, is the new ideal and achievement.

It is regarded not merely as each person's duty but also as his special privilege (moral, ethical, and religious) to make a livelihood by methods of the Transitional System of business (which compared to the old is getting money from money saved), or by wages (which when properly organized into an economic *system* is the New Business). If a person does not make a living,

the world will have to support him *without recompense to the world,* which is ethically unfair; and moreover, it is a moral wrong to the person thus pauperized. Everyone should do something to make an honest living, not merely for the sake of society but more especially for his own sake.

9. The Law of Livelihood & Business Altruism. Each person in the era of transitional profits (and still more so in the following profitless system) will carry on a livelihood occupation and will conduct all business transactions connected therewith by the natural exercise of his genius-capacities and abilities, to the full extent of his livelihood needs as a *moral necessity of his being.* He

[p. 170]

will also endeavor to produce a little more than he needs, so he may directly contribute to some of the ultra-livelihood kinds of progress as an *ethical necessity of his being.* He will do these things for the love of the *religious relatedness* thereby attained and still further attained by virtue of his doing his taxi-functional part of the world's work. He will esteem it to be a privilege also to do his part of furthering the world's progress. Such a person will, as the world's economic system develops, do business more and more by the transitional business methods, and will strive more and more to make a livelihood by means of his dominant genius-capacities and his dominant purposes. He will do this with *religious insight and zeal, under ethical impulses, for his moral growth.*

Wrong doing of every kind must be eliminated from business, and that which is unjust and unfair must disappear, if moral growth and religious relatedness is to come from livelihood earning and business. Cheating must be discontinued if ethical sympathies are to be developed — the seller will do the buyer as he would be done by in return, if there is real ethical sympathy and real religious fellowship (relatedness): a mere social fellowship or friendliness or acquaintance does not suffice.

It is evident that all there is of religion and ethics and morality will ultimately be brought to bear upon every phase of one's livelihood occupation and upon every phase of the business life of an individual or of a nation.

The selection of one's vocation and occupations according to one's scientifically ascertained genius-capacities and purposes, the scientific training of those special abilities, and the learning of the world's knowledge and skill relating, thereto introduce a new method and asset into one's livelihood and business. From a moral and ethical standpoint one cannot keep a clear conscience and do less!

10. *The Taxifunctional Law.* It has been previously said that a

person's livelihood-occupation should be determined by (1) his abilities and purposes and (2) by his opportunities; i.e., the heurotechnical ideal of a livelihood and business is that it should be taxifunctional. The most convenient and natural way to earn a living is to sell or barter the products of one's genius-capacities as they are directed into creative or productive work by impulses-to-do and by opportunity. It is a joy to create things to be sold; it is a pleasure to labor with body and brain in a trade or profession for good wages and give satisfaction therefor.

Those who have no conspicuous genius-capacities or abilities must do any work they can get — and for every person of higher ability there is needed a number of laborers of lower ability; for such is the taxifunctional law.

[p. 171]

11. *The Law of Systematic Heurotechnical Method.* The determination of one's natural vocation and most efficient occupation, and the learning of what is needed of those sciences and arts which will most help in carrying out one's special purposes is a business asset of priceless value. But steps need to be taken in industry and commerce for great success in business; inventive abilities are required to get better wages for a livelihood or to start a paying business. That is, it is necessary to make discoveries and inventions relating thereto. Consequently the use of a *systematic method or art* of discovering and inventing is needed in business as a method and as an asset, and as a *method of getting other methods.*

EIGHT PRINCIPLES OF PRACTICE IN INVENTIONAL DEVELOPMENT

The Importance of Inventional Development. The development of an industry is closely related to the economic conditions of the country and the development of civilization. The true incentive that should guide the earnest man in carrying on an industry should not be merely personal gain, although that is an essential and laudable factor in the success of that enterprise, but more largely a desire to make a definite and useful contribution to the progress of his country, race, and age. The mismanagement of a useful invention is a loss to the world; it is cheating the present and the future. Business has an ethical outlook and significance, and a man may take a religious kind of pleasure in the betterment of human conditions by industrial and commercial means. The mismanagement of such an invention as the telegraph, telephone, or radio would have meant something more to the world than the

mere failure of a few individuals to make money; it would have hindered the whole march of human progress. On the other hand the world need not begrudge the few millions of dollars that some one may make or may have made out of such inventions.

1. *Individual Initiative for Inventional Development.* Inventions are of such momentous value to humanity that great inducements should be offered to inventors to invent them and to the backer who helps them to a commercial success, because this has been the only known way by which this line of development can be effectively encouraged. *Individual initiative* is the only way at present practicable by which these things can be handled quickly enough, and unless cooperative effort can retain individual initiative in such matters it would retard this kind of progress, although progress along other lines might be aided.

2. *Avoidance of Usual Financial Difficulties.* A very large and

[p. 172]

important portion of our modern progress is due to the application of scientific discoveries and technical inventions to industrial needs. Yet it is well known that no phase of business is apt to be so unsatisfactorily conducted as that of the exploitation of inventions. A man who is capable of making discoveries in the sciences and working out improvements in the arts has generally given so much of his life and thought to study and research that his surplus cash is insufficient to enable him experimentally to perfect his methods or devices. For the small sums required he generally must sell at the very start for a mere trifle a "controlling" interest in his improvements, and for this interest he gets no money for himself, only enough to make the experiment. If he succeeds he has already obtained about all he will get.

It would be all right were he to sell even more than a controlling interest if there were any certainty that he would be able to retain that interest. But as well known, such is seldom the case. From a life-long experience with inventors that has been intimate and extensive, the regrettable conclusion is that almost without exception when an inventor has given more than fifty percent interest, he very seldom has been able to get any further money. Except in one or two instances, the only exceptions are those cases where the inventor was able, through his own means or with loans from friends, to hold control until he was ready to sell outright. In 95 percent of the cases studied where the inventor retained a minority interest (unless it were a mere pittance) he was quickly "frozen out" of that interest. This condition is largely due to the manipulation of stock companies, aided by inequitable corporation laws, by methods which enable the majority to control the minority and generally speaking, to do as they please with

minority interests.

The *financial dangers* confronting the inventor are of a very definite kind, which may be recognized and avoided. Usually he gets himself tied up with insufficient capital, and with an inefficient or dishonest promoter. By careless representations and ineffectual attempts the propositions are quickly offered to a number of persons under terms the rejection of which is a foregone conclusion, and the invention soon acquires the reputation of having been "hawked about on the street." If successful in securing an investor it is usually upon terms that start with glowing promises and end in disaster. For even when the inventor, promoter, and investor have honorable intentions it generally turns out that in order to get the further money needed to "start" the business on a commercial scale, after the invention has been made and satisfactorily tested, they have to part with at least 51 percent of what they hold collectively. The inventor is

[p. 173]
thus left with much less than he was first promised, and in the usual reorganization of the company he is dropped out entirely. All he has made out of his invention was his living expenses while engaged in the experiments.

3. *Seven Degrees of Risk and Stages of Inventional Development.* A close study was made of hundreds of actual cases involving the relations of inventor to investor and of both to the public. Systematic and constant inquiry was made of inventors, investors, and stockholders; legal decisions involving these questions were followed. By a careful consideration of all available data wherein the original inventor and investor succeeded in making money, a comparatively safe and practical way has been evolved for the inventor and his original backers to follow.

With ordinary prudence an invention need not offer more risk than any other kind of investment, provided it be made a factor in an otherwise well-planned business enterprise, and if other reasonable precautions are taken.

It is obvious that inventions offer widely different degrees of risk, according to the stage of their development and the kind of business enterprise to which they belong.

The First Stage of Development and Seventh Degree of Risk exists when there has as yet been no actual discovery or invention made but where there is recognition of a defect in some device or method and therefore also the recognition of a *pressing* need for a certain kind of invention which, on considering the possibilities, the inventor believes might be made if experimentally investigated. He has not yet arrived at a prospection. This is the stage at which most inventive research work commences. It is the *seventh* and

greatest degree of risk for an investor. With scientific ability and good laboratory facilities and an accurate knowledge of the state of the art, much may be expected, especially with the systematic methods of heurotechny. This constitutes the First Phase of the First Stage.

The Second Phase exists when a plausible and self-consistent idea of an invention for supplying that need has already come into the mind of the inventor and which, after having been considered from the mechanical, mathematical, physical, chemical, and commercial standpoints still seems feasible. That is, this phase consists of a Prospection.

The Third Phase exists where in carrying on a line of research a discovery has been made which appears as if it might be of commercial value if capable of being mechanically performed. That is, if the thing will actually do what is expected, no matter in how small or imperfect a way. For instance, if the discovery consists in the fact that fat exists in unicellular organisms, not

[p. 174]

yet knowing whether it can be extracted, it remains to be proved if it can be raised and extracted on a commercial scale and if it has the right quality.

The inventor has to give up control for the comparatively small sum of money required to make the test. The risk is great and the investor will not care to take it without a chance of large and speculative profit. Of course, not even an approximate estimate can be made of the time and cost of exploitation.

This first stage is finished when there is experimental evidence that the alleged discovery or invention is a scientifically determined *fact* and that it will "work."

The Second Stage of Development & Sixth Degree of Risk exists when an invention has been shown by a quantitative demonstration of its mechanical and other principles (1) that it can be manufactured on a scale sufficiently large to meet the commercial demands; (2) that it can do it cheaply enough for commercial purposes; and (3) that it is patentable. This second stage generally completes the whole ground of discovery and originality of invention in that line — or at least all the ground then necessary in that stage of progress. An invention in this stage is a conservative business investment if entered into by persons *who understand that kind of business*. It is nearly always easy to sell an interest in such an invention for more money than has been put into it.

The Third Stage of Development & Fifth Degree of Risk consists in the further development of a second stage invention for determining more accurately from experimental data its *efficiency,*

its practical sizes, shapes, portability, speeds, performances; for determining more accurately the cost of any of the special uses to which it is to be applied; for determining durability; for obtaining patents in *all* countries; for obtaining contracts, charters, options, and the actual orders necessary for business and for making an inventory of preferred commodities of the intended territory. At this stage an approximately accurate estimate can be made of the time and money required to put it on the market; but if there is any further *inventing* to be done in adjusting sizes, rates, or other factors, then an additional amount of time and money should be allowed, and the risk is greater.

When an invention is taken up to be carried from the second to the third stage the risk is very slight for the investor, if unreasonably large profit is not expected from the sale when the third stage is completed. By reasonable profit is not meant only a legal rate of interest, but also a bonus amounting, according to the invention, to from two to three or more times the sum invested. But big profits and steady profits over the years must

[p. 175]
be expected only by those who enter into and run that kind of business; and there is no reason why this should not be done by the original inventor and investor, if they understand that kind of business and if the capital can be obtained. In order properly to manage a business, someone must devote *all his time and attention to it.* It takes a number of years of practice and special fitness properly to learn a business and to get in proper relations with others in the same business.

Therefore, unless the original inventor and investor are already acquainted with that business they should sell out when the invention has completed the third stage of development and let those who are familiar with the business and have ample capital carry it to the next stage, retaining such royalties or territorial rights as they may, and getting as good a price as possible. As a rule neither the inventor nor investor wish to get into that line of business, but in cases where the invention does not require a great amount of money and where only ordinary business ability is involved and that not of a special kind of industrial experience or commercial skill of some highly developed kind, it will be entirely practical for them to carry it to the commercial demonstration of the fourth stage and start a business before selling out for a much better price.

The Fourth Stage of Development & Fourth Degree of Risk exists when a third-stage invention is being commercially tested by actually putting it on the market, to learn if it will sell, and what quantities, prices, and other details. When an invention has been

carried through the third stage, showing it to be scientifically correct and applicable to a commercial or industrial need, and when patented, then the invention may be sold or a company formed and stock sold for the money for the fourth stage.

This is the time when experts usually come upon the scene and great mistakes usually occur. It should be remembered that seldom can a man be expert in more than one specialty. The mechanical expert should not be allowed to pass upon chemical problems, nor the merchant upon the patentability, nor the scientist (unless it is his specialty) upon its commercial possibilities. For some kinds of inventions there is no way to tell whether they will make money *except by putting them on the market.* Real experts are rare, and to every score of alleged and self-advertised ones there is seldom more than one real expert; for his mind soon runs in grooves that are too narrow to accommodate to the ever-widening path of progress. The mind tends to run in a rut after it has devoted itself to one subject for ten or fifteen years and it becomes intolerant of new methods and inappreciative of new conditions. This is especially true of

[p. 176]
"practical" persons without scientific and cultural trainings who have been engaged in one line of business. Many things that have been utterly condemned by experts have quickly made fortunes and many things enthusiastically endorsed by scores of experts have turned out to be gigantic failures; and this is not only occasionally true, it is almost the invariable rule.

No one can tell beforehand what the public will buy or refuse. No one can foresee how bitter the unforeseen competition or how easily a seemingly formidable and known competition may melt away. There can be no reliable test of commercial value of a thing except that of inventorying the demands for that commodity and putting it on the market. But it must be tested under the actual commercial and industrial conditions where it is to be put on the market, showing that the materials can be bought, the labor hired, the goods manufactured and marketed at a profit, without legal or other interference.

The Fifth Stage of Development & Third Degree of Risk exists when the inventor and his backer, following these four methods, make improvements on inventions whose patents are just about to expire and which have been the basis of a lucrative monopoly. It is important to note that an invention that is simply an improvement on a machine or process for which fundamental patents are still in force will not bring as big a price as an invention which forms the sole basis of a new industry.

The Sixth Stage of Development & Second Degree of Risk

exists when trained scientists are employed by individual corporations to apply scientific research to their industry, commodity, art, or craft, the investigators keeping in close touch with the manufacturer. This method has become a fixed factor in modern success.

The Seventh Stage of Development & First Degree of Risk exists when trained scientists apply heurotechny to an industry, art, craft, or commodity, keeping in close touch with manufacturers and consumers.

4. First Financial Steps with an Invention. When an inventor is without money of his own to make a preliminary investigation of an inventional "idea" or any other heurid in which he has faith, he (1) should borrow the money of a friend on his personal note, agreeing to repay it with interest in two or three years (or sooner if practical), plus an agreed-upon bonus if the venture is a success, pledging part of the profits thereto. It should be understood that if this first "idea" of prospection does not work out practically the inventor shall have further similar loans for trying another and another and still another, but he should *not* for this loaned money promise an *interest* in any invention he might thus make, because an "idea" or prospection is not an invention.

[p. 177]

It is not an invention in the business sense until it shall have been determined that (a) it is scientifically correct; (b) that it will "work"; and (c) that it is patentable.

In this way the lender may ultimately be repaid, plus a bonus. It is probable that any honest and earnest inventor who has inventive ability and scientific knowledge will be able to succeed with this kind of an opportunity, and he will naturally be eager to repay with interest and bonus plus such *first business opportunities* connected with its handling as the invention may afford. The money should be considered a *loan* and not an investment. Who will not be glad for the opportunity thus to promote inventional progress?

When the heurist finds that he has made a discovery or invention or done creative work that promises to be of financial importance, he may under promise of secrecy, by written and witnessed disclosure, by drawings, models, explanations, and references (2) induce his friend to loan him still more money for patents and preliminary demonstrations. If the friend cannot or will not, some other person should be induced to pay off the loan (if that is desired) and make a further loan, giving (if the former loan is paid) as security a lien against the invention for some one state, group of states, country, or continent, according to the nature of the business by which the invention will be commercialized. In

this way the inventor will have what is his right, a fair opportunity to get his invention fully demonstrated without parting with his control at the very start; and if it promises after this demonstration to be worth anything he will be able to raise the money to repay the loan and take up the lien. He will be able to do this on satisfactory terms because in his attempt to make a deal he can state that payment of the loan will free the invention, and he can thus make such terms *as he chooses.*

If the inventor tries to sell an interest before making a demonstration and ascertaining patentability he is under a *very* great disadvantage. It is not merely just that the inventor should have the advantage of a full demonstration and ample time, but it is essential to the efficient working of his mind and the maintenance of a proper good will towards the enterprise. On the other hand, if the inventor fails to repay, the lender will have a lien against the rights for a given territory which he will be free independently to exploit, this action by agreement canceling the note.

It is equitable that these facilities be offered a heurist. In evolving something really new and important the mind does not do it all at once, but "lets go" every now and then for awhile and rests and waits for subconscious and conscious mental

[p. 178]
elaborations, and when it gets ready, contributes the next step towards the development of that heurid. Sometimes, when the first step actually consists of the next step in the natural development of an art, this waiting period may be avoided. But when a new field is being entered, these stages may be counted upon with almost as much certainty as the seasons of the year. Inventors seldom have an opportunity for carrying their inventions to the fourth stage of development for the simple reason that they seldom own any interest in them for that length of time; and for the further reason that the first and second stages are usually mistaken for the fourth and final stages. The final stages of development usually consists of a great number of minutely accurate adjustments, not only to existing industrial conditions but also to most exacting commercial conditions. When an inventor has real knowledge and ability and when he is sincere and honest it is always deplorable if he is not given an opportunity to watch and study his invention through its fourth stage doing the actual work for which it is intended. He of all persons would be the most likely to carry it most quickly and completely to the next step in its perfection. It is seldom that an inventor has this opportunity.

The mind that first conceived the new principle is, according to all laws of growth, the most apt properly to ripen it; and when once an inventor actually gets the chance to do this, when he has not

already lost control and thereby interest, he may be expected to succeed. But one should not expect wonders in a month or two. He may do so; but as a rule his mind will subconsciously consider it a long time before digesting and producing the desired result. Let him have a year or two and disappointment will rarely follow. But the mind must be free from worries and distractions and have surplus energy with which to work. The creative mind should be allowed time and proper conditions not only to blossom but also to ripen its fruit.

It may sometimes happen that an invention at the second or third stage will be ready to be placed on the market. The inventor may often be able to do so with his own means, or by borrowed money or by money received from the sale of a minority interest or a given territory. He may be glad, for a little further money *invested* (not loaned) by the original lender, to give a fair interest in the enterprise. Or similarly disposed, the lender may promote a company to buy out the inventor or a given territory.

If it is found that the invention needs still more money to carry it through the fourth stage before it can be commercialized and if the lender does not wish to raise this further money as a loan, then let him or (4) some one else go on with it under the agreement that in addition to the repayment of the loan a still

[p. 179]

larger and adequate bonus shall be offered. If it is some one else let him first fully repay the lender (with interest and incurred expenses). This bonus may be large enough to be an inducement to get the money, and the inventor may safely pledge any proportion of his profits up to 49 percent thereof without losing control of his invention. The inventor and investor may then complete the development, and sell or otherwise handle it subject to the bonus.

5. *Several Inventions to Share Overhead Expense.* A principle of great practical importance in the development of inventions may be utilized. It usually happens that while making the main device the *spare time* of workmen can be utilized in making a few other inventions of a kind that will add but little expense. In experimental work there are no routine jobs and hence workmen are very frequently waiting for someone to finish his job. This spare time properly utilized would develop a few additional inventions at a cost for materials only, and they may often prove as big a commercial success as the main invention, and sometimes bigger. This plan will frequently prevent what otherwise might be a failure financially and will generally furnish the money for carrying the main invention along its further development.

6. *Protection of Interests of Both Inventor and Investor.* Those

who advance capital are not usually any more willing to trust their interests to the business inexperience of the average inventor than he should be willing to trust their business "experience" with control of his invention for all countries before having been adequately paid. But as the inventor cannot be adequately paid until his inventions have been carried to the third or fourth stage of development, some way is needed to protect him, even from the possibility of failure of the original backer to raise money promised and needed. In that case he should be free, after a reasonable time, to raise the capital elsewhere in order to complete his invention.

So serious is this situation that inventions as investments are sometimes discredited, and the average scientific discoverer would rather let his inventions lie unexploited than go through the struggles and annoyance of their development, feeling quite certain that he will be inadequately paid for it. The problem lies at the very basis of further progress in the inventional prosperity of this and other countries.

Admittedly capital should control that in which it heavily invests, but the inventor should not lose control of all his inventional territory. In this dilemma these two conditions must be harmonized without endangering the rights of either. One possibility is such a plan as the Alternate Apportionments of

[p. 180]

Territories, which consists in selling a controlling interest (51 percent or more) in one half the states or countries or industries, and keeping a controlling interest in the other half, giving a minority interest therein. These territories can be picked alternately in succession. For business reasons both parties may prefer a larger interest in the territories controlled. Both parties should enter into private contract not to encroach commercially upon each other's domains. This arrangement should be attractive to the inventor as well as investor, because each actually controls half of the territory and has a minority interest in the other half, which is eminently fair. The investor's interest is limited to certain territories, but as a matter of fact, few men or corporations are competent to carry on the business management and commercial oversight of more than one state, country, or continent. Besides, if the invention is worth anything at all, the investor will make enough money to justify his investment.

7. *Safeguarding Minority Interests.* As a further detail in adjusting and safeguarding the rights of the original investor and inventor, the agreement entered may be drawn with a full recognition of the laws of private contract. Such agreement may be effectually carried out and enforced, because these laws are

fundamental and basic in common law.

If a stock company be formed it is recommended that upon each stock certificate each stockholder enter into private contract with all other stockholders not to take advantage of the opportunities offered by our corporation laws to manipulate the minority interests against their will. To that end the stock should be placed in the hands of a board of trustees, part chosen from the majority and part from the minority interests, they to choose the third party. This board will transact all buying and selling of stocks, determine and distribute profits, see that justice is meted out impartially to all stockholders, and that they carry out their private contract not to take part in certain unfair corporation methods and stock-jobbing schemes. Such a company will have a charter and it will be an association of stockholders who have agreed with each other individually to make use of the advantages of a corporation and not of its disadvantages.

8. *Inventions Only One Factor In Business.* To those who have studied modern methods of specialized research in connection with a business enterprise, it will be evident that an invention or a group of them is only one of several coordinate factors. Even then the inventing must be continuously applied under the guidance of scientific research. According to heurotechnical standards research and invention and creation and social application must go hand in hand to make a great and permanent business under modern conditions.

[p. 181]

SUMMARY OF PRINCIPLES OF LIVELIHOOD & BUSINESS

ELEVEN BASIC LAWS

1. *The Fundamental Heurotechnical Principle:* the selection of one's natural vocation and best occupation should precede every other preparation for livelihood and business.

2. *The Vocational Law:* one's livelihood and business should be scientifically determined by his predilections and genius-capacities, purposes and opportunities.

3. *The Moral Law:* everyone should desire to earn his own living.

4. The Livelihood and Business Standard: the Middle Upper Average achievement in livelihood should be the ideal for society to lift its members.

5. *The Religious Law:* a livelihood better than the Middle Upper Average will arouse the disapprovals unless the surplus is used for equal good of all and its use appreciated by the public to prevent discontent.

6. *The Ethical Law:* society will be living at an economic loss if each individual during his lifetime does not contribute the amount of one person's total livelihood.

7. *The Law of Honorary Reward for Heurids:* heuric work should be encouraged by reward above the ordinary livelihood and business return.

8. *The Evolutionary Law:* business is evolving from (a) the Old System in which the seller's profit comes out of the buyer as money paid in large excess of what it costs to produce; (b) the Transitional System in which profit is part of money saved to the producer and consumer; (c) and the Future System in which industry is carried on without profit: a moral, ethical, and religious ideal. Business plans should fit into the Transitional System.

9. *The Law of Livelihood & Business Altruism:* a living should be made as a moral necessity; a little surplus should be produced to contribute to ultra-livelihood progress as an ethical necessity; and both done for love of the religious relatedness.

10. *The Taxifunctional Law:* one must do the work for which best fitted in the world scheme.

11. *The Law of Systematic Heurotechnical Method:* a systematic method or art of discovering and inventing in a business is needed as a method and asset, and as a *method of getting other methods.*

[p. 182]

EIGHT PRINCIPLES OF PRACTICE IN INVENTIONAL DEVELOPMENT

1. Individual initiative is most important for inventional development.

2. Financial difficulties confronting an inventor are definite and avoidable.

3. Inventional development may be classified and evaluated into seven degrees of risk and stages of development.

4. Proven first financial steps with an invention should be followed.

5. Overhead expenses should be reduced by developing several inventions at a time.

6. Interests of both inventor and investor should be protected.

7. Agreements should be made to safeguard the minority interests.

8. Inventions are only one factor in business.