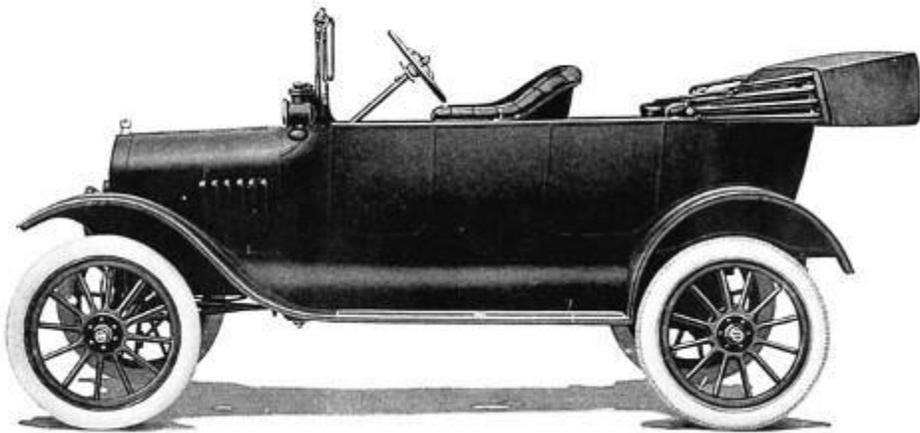


*My Life and Work*

By Henry Ford



### *Summary*

Henry Ford recounts his life and the business philosophy which helped him create one of the most innovative and dominant companies of all time.

"The essence of my idea is that waste and greed block the delivery of true service. Both waste and greed are unnecessary. Waste is due largely to not understanding what one does, or being careless in doing of it. Greed is merely a species of nearsightedness. I have striven toward manufacturing with a minimum of waste, both of materials and of human effort, and then toward distribution at a minimum profit, depending for the total profit upon the volume of distribution. In the process of manufacturing I want to distribute the maximum of wage – that is, the maximum of buying power. Since also this makes for a minimum cost and we sell at a minimum profit, we can distribute a product in consonance with buying power. Thus everyone who is connected with us – either as a manager, worker or purchaser – is the better for our existence. The institution that we have erected is performing a service. That is the only reason I have for talking about it. The principles of that service are these:

1. An absence of fear of the future and of veneration for the past. One who fears the future, who fears failure, limits his activities. Failure is only the opportunity more intelligently to begin again. There is no disgrace in honest failure; there is disgrace in fearing to fail. What is past is useful only as it suggests ways and means for progress.
2. A disregard of competition. Whoever does a thing best ought to be the one to do it. It is criminal to try to get business away from another man – criminal because one is then trying to lower for personal gain the condition of one's fellow man – to rule by force instead of by intelligence.
3. The putting of service before profit. Without a profit, business cannot extend. There is nothing inherently wrong about making a profit. Well-conducted business enterprise cannot fail to return a profit, but profit must and inevitably will come as a reward for good service. It cannot be the basis – it must be the result of service.
4. Manufacturing is not buying low and selling high. It is the process of buying materials fairly and, with the smallest possible addition of cost, transforming those materials into a consumable product and giving it to the consumer. Gambling, speculating, and sharp dealing, tend only to clog this progression."

## *Key Takeaways*

### On Business

1. Business exists for service but the present system does not permit of the best service because it encourages every type of waste. It keeps many men from getting the full return from service
2. The natural thing to do is work – to recognize that prosperity and happiness can be obtained only through honest effort. Human ills flow largely from attempting to escape from this natural course. I have no suggestion which goes beyond accepting in its fullest this principle of nature. I take it for granted that we must work. All that we have done comes as the result of a certain insistence that since we must work it is better to work intelligently and forehandedly; that the better we do our work the better off we shall be. All of which I conceive to be merely elemental common sense.
3. As we serve our job we serve the world – Do your job! As you do anything, is how you do everything
4. Business is never as healthy as when, like a chicken, a certain amount of scratching has to be done. Things cannot come too easily
5. It is what a thing does, not what it is meant to do, that matters. For anyone to be required to use more force than is absolutely necessary for the job on hand is waste
6. The principal part of the chisel is the cutting edge.
7. Above all else, first find a good idea. Given a good idea to start with, it is better to concentrate on perfecting it than to hunt around for a new idea. One idea at a time is about as much as anyone can handle
8. The way I have always worked is to draw out a plan and work out every detail of the plan before starting to build. Many inventors fail because they do not distinguish between planning and experimenting
9. There was no way the Model T could not be successful for it was not made in a day. Every detail had been fully tested in practice
10. There is an immense amount to be learned simply by tinkering with things. It is not possible solely to learn from books. Can get ideas from them but must use one's brains to apply them
11. I loved watching and almost went into the business but did not because I figured out that watches are not universal necessities and people generally would not buy them. Even then I wanted to produce something in quantity
12. I read everything I could find, but the greatest knowledge came from the work

13. No work with interest is ever hard
14. It does not pay to hurry
15. There was no demand for automobiles when I first started. There never is for new articles
  1. *Early on, the general population only cared for speed. Although Ford thought that raw speed was a poor metric to optimize for, he knew his consumers and what they wanted. So, he built a car to beat the world's fastest drivers and got press that way. He balanced what the consumers wanted while also keeping in mind and knowing what the consumer did not know they wanted.*
16. The most surprising thing I found about business was the large concern for finance and low concern for service
17. Time spent fighting the competition is wasted – it had better be spent doing the work
18. The man who has the largest capacity for work and thought is bound to succeed
19. The whole progress of the company had always been financed out of earnings. Everything is being done out of earnings. That is our policy
20. No stunt and no advertising will sell any article for any length of time
21. Money is only worth what it will help you produce or buy. No more
22. Worst of all advertisements is a dissatisfied customer
23. The refinement and use of vanadium made the universal car possible as it was light and strong and it had to have these attributes:
  1. Quality in material to give service in use. Vanadium steel is the strongest, toughest, and most lasting of steels. It forms the foundation and super-structure of the cars. It is the highest quality steel in this respect in the world, regardless of price
  2. Simplicity in operation – because the masses are not mechanics
  3. I believed then, although I said very little about it because of the novelty of the idea, that it ought to be possible to have parts so simple and so inexpensive that the menace of expensive hand repair work would be entirely eliminated. The parts could be made so cheaply that it would be less expensive to buy new ones than to have old ones repaired. They could be carried in hardware shops just as nails or bolts are carried. I thought that it was up to me as the designer to make the car so completely simple that no one could fail to understand it.
  4. That works both ways and applies to everything. The less complex an article, the easier it is to make, the cheaper it may be sold, and therefore the greater number may be sold
  5. Power in sufficient quantity
  6. Absolute reliability – because of the varied uses to which the cars would be put and the variety of roads over which they would travel

7. Lightness. With the Ford there are only 7.95 pounds to be carried by each cubic inch of piston displacement. This is one of the reasons why Ford cars are "always going," wherever and whenever you see them – through sand and mud, through slush, snow, and water, up hills, across fields and road less plains
  8. Control – to hold its speed always in hand, calmly and safely meeting every emergency and contingency either in the crowded streets of the city or on dangerous roads. The planetary transmission of the Ford gave this control and anybody could work it. That is the "why" of the saying: "Anybody can drive a Ford." It can turn around almost anywhere
  9. The more a motor car weights, naturally the more fuel and lubricants are used in the driving; the lighter the weight, the lighter the expense of operation. The light weight of the Ford car in its early years was used as an argument against it. Now that is all changed
  10. Any customer can have a car painted any color he wants so long that it is black
24. Principles of assembly:
1. Place the tools and the men in the sequence of the operation so that each component part shall travel the least possible distance while in the process of finishing
  2. Use work slides or some other form of carrier so that when a workman completes his operation, he drops the part always in the same place – which place must always be the most convenient place to his hand – and if possible have gravity carry the part to the next workman for his operation
  3. Use sliding assembling lines by which the parts to be assembled are delivered at convenient distances
  4. The net result of the application of these principles is the reduction of the necessity for thought on the part of the worker and the reduction of his movements to a minimum
25. The laws of business are like the laws of gravity and the man who opposes them feels their power
26. Very worst time to try to raise money is when bankers think you need it. And that is the danger of having bankers in business. They think solely in terms of money. They think of a factory as making money, not goods. They want to watch the money, not the efficiency of production. They cannot comprehend that a business never stands still, it must go forward or go back. They regard a reduction in prices as a throwing away of profit instead of as a building of business

1. *Adhering and honoring the power of the Red Queen Effect. If you are not moving forward, you are moving backward. As your ecosystem is continuously moving forward, if you're simply standing still it is the same as falling behind*
27. This season demonstrated conclusively to me that it was time to put the new policy in force. The salesman, before I had announced the policy, were spurred by the great sales to think that even greater sales might be had only if we had more models. It is strange how, just as soon as an article becomes successful, somebody starts to think that it would be more successful if only it were different. There is a tendency to keep monkeying with styles and to spoil a good thing by changing it. The salesmen were insistent on increasing the line. They listened to the 5%, the special customers who could say what they wanted, and forgot about the 95% who just bought without making a fuss. No business can improve unless it pays the closets possible attention to complaints and suggestions. If there is any defect in serve then that must be instantly and rigorously investigated, but when the suggestion is only as to style, one has to make sure whether it is not merely a personal whim that is being voiced. Salesman always want to cater to whims instead of acquiring sufficient knowledge of their product to be able to explain to the customer the whim that what they have will satisfy his every requirement – that is, of course, provided what they have does satisfy these requirements.
28. Everything can always be done better than it is being done
29. With the tractor we followed the exact same course as with the automobile. Each part had to be as strong as it was possible to make, the parts had to be few in number, and the whole had to admit of quantity production
30. Ford bought the Detroit, Toledo and Ironton Railway in 1921 and applied "industry principles" – turned a terribly performing, unreliable line into a powerhouse. The railroads in general have broken down, and if the former conduct of the DTI is any criterion of management in general there is no reason in the world why they should not have broken down. Too many railroads are run, not from the offices of practical men, but from banking offices, and the principles of procedure, the whole outlook, are financial – not transportational, but financial. There has been a breakdown simply because more attention has been paid to railroads as factors in the stock market than as servants of the people. Outworn ideas have been retained, development has been practically stopped, and railroad men with vision have not been set free to grow. Will a billion dollars solve that sort of trouble? No, a billion dollars will only make the difficulty one billion dollars worse. The purpose of the billion is simply to continue the present methods of railroad management, and it is because of the present methods that we have any railroad difficulties at all.

31. It is one of nature's compensations to withdraw prosperity from the business which does not serve
32. Being greedy for money is the surest way not to get it, but when one serves for the sake of service – for the satisfaction of doing that which one believes to be right – then the money abundantly takes care of itself. Money comes naturally as the result of service. And it is absolutely necessary to have money. But we do not want to forget that the end of money is not ease but the opportunity to perform more service. In my mind nothing is more abhorrent than a life of ease. None of us has any right to ease. There is no place in civilization for the idler
1. *I disagree slightly on his point about the idler. Some idle and leisure time has been a sure sign of progress and civilization throughout history. This “down” time is necessary for thought, innovation, breakthroughs, to gain perspective and see things differently. This cannot be the state of the whole population but it must exist for a select few.*
33. He is a wise merchant who would rather take less profit and keep business moving than keep his stock at high prices and bar the progress of his community. A man like that is an asset to a town. He has a clear head. He is better able to swing the adjustment through his inventory than through cutting down the wages of his delivery men – through cutting down their ability to buy
34. I have heard it said, in fact I believe it is quite a current thought, that we have taken skill out of work. We have not. We have put in skill. We have put a higher skill into planning, management, and tool building, and the results of that skill are enjoyed by the man who is not skilled
35. The factory keeps no record of experiments. The foremen and superintendents remember what has been done. If a certain method has formerly been tried and failed, somebody will remember it – but I am not particularly anxious for the men to remember what someone else has tried to do in the past, for then we might quickly accumulate far too many things that could not be done. That is one of the troubles with extensive records. If you keep on recording all of your failures you will shortly have a list showing that there is nothing left for you to try – whereas it by no means follows because one man has failed in a certain method that another man will not succeed. We get some of our best results from letting fools rush in where angels fear to tread. None of our men are "experts." We have most unfortunately found it necessary to get rid of a man as soon as he thinks himself an expert – because no one ever considers himself expert if he really knows his job. A man who knows a job sees so much more to be done than he has done, that he is always pressing forward and never gives up an instant of thought to how good and how efficient he is.

Thinking always ahead, thinking always of trying more, brings a state of mind in which nothing is impossible. The moment one gets into the "expert" state of mind a great number of things become impossible

36. That which one has to fight hardest against in bringing together a large number of people to do work is excess organization and consequent red tape. To my mind there is no bent of mind more dangerous than that which is sometimes described as the "genius for organization." This usually results in the birth of a great big chart showing, after the fashion of a family tree, how authority ramifies. The tree is heavy with nice round berries, each of which bears the name of a man or of an office. Every man has a title and certain duties which are strictly limited by the circumference of his berry. Now a business, in my way of thinking, is not a machine. It is a collection of people who are brought together to do work and not to write letters to one another. It is not necessary for any one department to know what any other department is doing. If a man is doing his work he will not have time to take up any other work. It is the business of those who plan the entire work to see that all of the departments are working properly toward the same end. It is not necessary to have meetings to establish good feeling between individuals or departments. It is not necessary for people to love each other in order to work together. Too much good fellowship may indeed be a very bad thing, for it may lead to one man trying to cover up the faults of another. That is bad for both men.
37. We make the individual responsibility complete. The workman is absolutely responsible for his work. The straw boss is responsible for the workmen under him. The foreman is responsible for his group. The department head is responsible for the department. The general superintendent is responsible for the whole factory. Every man has to know what is going on in his sphere
38. The habit of acting shortsightedly is a hard one to break. What can be done? Nothing. No rules or laws will affect the changes. But enlightened self-interest will. It takes a little while for enlightenment to spread. But spread it must, for the concern in which both employer and employees work to the same end of service is bound to forge ahead in business
39. Waste is prevented by far-sighted not by short-sighted men. Short-sighted men think first of money. They cannot see waste. They think of service as altruistic instead of as the most practical thing in the world. They cannot get far enough away from the little things to see the big things – to see the biggest thing of all, which is that opportunist production from a purely money standpoint is the least profitable. Service can be based upon altruism, but that sort of service is not usually the best. The sentimental trips up the practical.

40. Capital that is not constantly making conditions of daily labor better and the reward of daily labor more just, is not fulfilling its highest function. The highest use of capital is not to make more money, but to make money do more service for the betterment of life. Unless we in our industries are helping to solve the social problem, we are not doing our principal work. We are not fully serving.
41. More men are beaten than fail. It is not wisdom they need or money, or brilliance or "pull," but just plain gristle and bone. This rude, simple, primitive power which we call "stick-to-it-iveness" is the uncrowded king of the world of endeavor. People are utterly wrong in their slant upon things. They see the success that men have made and somehow they appear to be easy. But that is a world away from the facts. It is failure that is easy. Success is always hard. A man can fail in ease; he can succeed only by paying out all that he has and is. It is this which makes success so pitiable a thing if it be in lines that are not useful and uplifting.
42. Business should be on the side of peace, because peace is business' best asset
43. France has something to give the world of which no competition can cheat her. So has Italy. So has Russia. So have the countries of South America. So has Japan. So has Britain. So has the United States. The sooner we get back to a basis of natural specialties and drop this free-for-all system of grab, the sooner we shall be sure of international self-respect – and international peace. Trying to take the trade of the world can promote war. It cannot promote prosperity. Someday even the international bankers will learn this.
44. You can hardly have too much harmony in business. But you can go too far in picking men because they harmonize. You can have so much harmony that there will not be enough of the thrust and counter thrust which is life – enough of the competition which means effort and progress. It is one thing for an organization to be working harmoniously toward one object, but it is another thing for an organization to work harmoniously with each individual unit of itself. Some organizations use up so much energy and time maintaining a feeling of harmony that they have no force left to work for the object for which the organization was created. The organization is secondary to the object. The only harmonious organization that is worth anything is an organization in which all the members are bent on the one main purpose – to get along toward the objective. A common purpose, honestly believed in, sincerely desired – that is the great harmonizing principle.
45. I pity the poor fellow who is so soft and flabby that he must always have "an atmosphere of good feeling" around him before he can do his work. There are such men. And in this end, unless they obtain enough mental and moral hardiness to lift them out of their soft reliance on "Feeling," they are failures. Not only are they business failures; they are character failures also; it is as if their bones never attained a sufficient degree of hardness

to enable them to stand on their own feet. There is altogether too much reliance on good feeling in our business organizations. People have too great a fondness for working with the people they like. In the end it spoils a good many valuable qualities.

46. We began to manufacture according to a creed – a creed which was at that time unknown in business. The new is always thought odd, and some of us are so constituted that we can never get over thinking that anything which is new must be odd and probably queer. The mechanical working out of our creed is constantly changing. We are continually finding new and better ways of putting it into practice, but we have not found it necessary to alter the principles, and I cannot imagine how it might ever be necessary to alter them, because I hold that they are absolutely universal and must lead to a better and wider life for all. If I did not think so I would not keep working – for the money that I make is in consequent. Money is useful only as it serves to forward by practical example the principle that business is justified only as it serves, that it must always give more to the community than it takes away, and that unless everybody benefits by the existence of a business then that business should not exist.
47. Progress comes from a generous form of rivalry. Bad competition is personal. It works for the aggrandizement of some individual or group. It is a sort of warfare. It is inspired by a desire to "get" someone. It is wholly selfish. That is to say, its motive is not pride in the product, nor a desire to excel in service, nor yet a wholesome ambition to approach to scientific methods of production. It is moved simply by the desire to crowd out others and monopolize the market for the sake of the money returns. That being accomplished, it always substitutes a product of inferior quality.
48. All the wise people demonstrated conclusively that the engine could not compete with steam. They never thought that it might carve out a career for itself. That is the way with wise people – they are so wise and practical that they always know to a dot just why something cannot be done; they always know the limitations. That is why I never employ an expert in full bloom. If I ever wanted to kill opposition by unfair means I would endow the opposition with experts. They would have so much good advice that I could be sure they would do little work.
49. My idea was then and still is that if a man did his work well, the price he would get for that work, the profits and all financial matters, would care for themselves and that a business ought to start small and build itself up and out of its earnings. If there are no earnings then that is a signal to the owner that he is wasting his time and does not belong in that business

50. And I also noticed a tendency among many men in business to feel that their lot was hard – they worked against a day when they might retire and live on an income – get out of the strife. Life to them was a battle to be ended as soon as possible. That was another point I could not understand, for as I reasoned, life is not a battle except with our own tendency to sag with the down pull of "getting settled." If to petrify is success all one has to do is to humor the lazy side of the mind but if to grow is success, then one must wake up anew every morning and keep awake all day. I saw great businesses become but the ghost of a name because someone thought they could be managed just as they were always managed, and though the management may have been most excellent in its day, its excellence consisted in its alertness to this day, and not in slavish following of its yesterdays. Life, as I see it, is not a location, but a journey. Even the man who most feels himself "settled" is not settled – he is probably sagging back. Everything is in flux, and was meant to be. Life flows. We may live at the same number of the street, but it is never the same man who lives there
51. The public is wary. It thinks that the price cut is a fake and it sits around waiting for a real cut. We saw much of that last year. If, on the contrary, the economies of making are transferred at once to the price and if it is well known that such is the policy of the manufacturer, the public will have confidence in him and will respond. They will trust him to give honest value. So standardization may seem bad business unless it carries with it the plan of constantly reducing the price at which the article is sold. And the price has to be reduced (this is very important) because of the manufacturing economies that have come about and not because the falling demand by the public indicates that it is not satisfied with the price. The public should always be wondering how it is possible to give so much for the money. Standardization (to use the word as I understand it) is not just taking one's best-selling article and concentrating on it. It is planning day and night and probably for years, first on something which will best suit the public and on how it should be made. The exact processes of manufacturing will develop of themselves. Then, if we shift the manufacturing from the profit to the service basis, we shall have a real business in which the profits will be all that anyone could desire.
52. My associates were not convinced that it was possible to restrict our cars to a single model. The automobile trade was following the old bicycle trade, in which every manufacturer thought it necessary to bring out a new model each year and to make it so unlike all previous models that those who had bought the former models would want to get rid of the old and buy the new. That was supposed to be good business. It is the same idea that women submit to in their clothing and hats. That is not service – it seeks only to provide something new, not something better. It is extraordinary how firmly rooted is the notion

that business – continuous selling – depends not on satisfying the customer once and for all, but on first getting his money for one article and then persuading him he ought to buy a new and different one. The plan which I then had in the back of my head but to which we were not then sufficiently advanced to give expression, was that, when a model was settled upon then every improvement on that model should be interchangeable with the old model, so that a car should never get out of date. It is my ambition to have every piece of machinery, or other non–consumable product that I turn out, so strong and so well made that no one ought ever to have to buy a second one. A good machine of any kind ought to last as long as a good watch.

53. "How soon will Ford blow up?" Nobody knows how many thousand times it has been asked since. It is asked only because of the failure to grasp that a principle rather than an individual at work, and the principle is so simple it seems almost mysterious. Modern methods applied in a big way have not only brought the cost of axe handles down to a fraction of their former cost – but they have immensely improved the product. It was the application of these same methods to the making of the Ford car that at the very start lowered the price and heightened the quality. We just developed an idea. The nucleus of a business may be an idea. That is, an inventor or a thoughtful workman works out a new and better way to serve some established human need; the idea commends itself, and people want to avail themselves of it. In this way a single individual may prove, through his idea or discovery, the nucleus of a business. But the creation of the body and bulk of that business is shared by everyone who has anything to do with it. No manufacturer can say: "I built this business" – if he has required the help of thousands of men in building it. It is a joint production. Everyone employed in it has contributed something to it. By working and producing they make it possible for the purchasing world to keep coming to that business for the type of service it provides, and thus they help establish a custom, a trade, a habit which supplies them with a livelihood. That is the way our company grew.

### On Simplicity

1. My effort is in the direction of simplicity. Real simplicity means that which gives the best service and is the most convenient in use. Start with an article that suits and then study to find some way of eliminating all the useless parts. This applies to everything – a shoe, a dress, a house, a piece of machinery, a railroad, a steamship, an airplane. As we cut out

useless parts and simplify necessary ones we also cut down the cost of making. This is simple logic, but oddly enough the ordinary process starts with a cheapening of the manufacturing instead of with a simplifying of the article. The start ought to be with the article. First we ought to find whether it is as well made as it should be – does it give the best possible service? Then – are the materials the best or merely the most expensive? Then – can its complexity and weight be cut down? And so on.

2. Do not scatter energies over collateral objects
  1. *Don't make the marginal the core, nor the core marginal*

### On Hiring & Training

1. Men of a more mechanical turn of mind, but with no desire for responsibility, go into the tool-making departments where they receive considerably more pay than in production proper. But the vast majority of men want to stay put. They want to be led. They want to have everything done for them and to have no responsibility. Therefore, in spite of the great mass of men, the difficult is not to discover men to advance, but men who are willing to be advanced.
2. Whatever expertness in fabrication that has been developed has been due to men. I think that if men are unhampered and they know that they are serving, they will always put all of mind and will into even the most trivial of tasks
  1. *Can only learn and accomplish certain things when everyone is all-in*
3. To produce, produce; to get a system that will reduce production to a fine art; to put production on such a basis as will provide means for expansion and the building of still more shops, the production of still more thousands of useful things – that is the real industrial idea. The negation of the industrial idea is the effort to make a profit out of speculation instead of out of work. There are short-sighted men who cannot see that business is bigger than any one man's interests. Business is a process of give and take, live and let live. It is cooperation among many forces and interests. Whenever you find a man who believes that business is a river whose beneficial flow ought to stop as soon as it reaches him you find a man who thinks he can keep business alive by stopping its circulation. He would produce wealth by this stopping of the produce of wealth
4. Not only is a title injurious to the wearer, it often has ill effects on others as well. There is perhaps no greater single source of personal dissatisfaction among men than the fact that the title-bearers are not always the real leaders. Everybody acknowledges a real leader – a

man who is fit to plan and command. And when you find a real leader who bears a title, you will have to inquire of someone else what his title is. He doesn't boast about it

1. *People will eventually flow towards talent rather than title. It is injurious when these two don't align*
5. The health of every organization depends on every member – whatever his place – feeling that everything that happens to come to his notice relating the welfare of the business is his own job. Railroads have gone to the devil under the eyes of the departments that say: "Oh, that doesn't come under our department. Department X, 100 miles away, has that in charge."
6. We do not hire a man's history, all that he needs is the desire to work
7. We do not, to repeat, care what a man has been. If he has gone to college he ought to be able to go ahead faster, but he has to start at the bottom and prove his ability. Every man's future rests solely with himself. There is far too much loose talk about men being unable to obtain recognition. With us every man is fairly certain to get the exact recognition he deserves
8. The will to be skilled is not general and even if it were, the courage to follow through with the training is not.
9. Men tend to not like changes that they themselves do not suggest
  1. *Against popular opinion, people tend to be fine with change if there is no prospect for loss. People never seem to mind change if it involves a promotion...*
10. I did a thorough investigation into every job at the plant to determine which could be done by the disabled. These bedridden or disabled men were often able to do just as well as the men in the shop and, in fact, their production was about 20%, I believe, above the usual shop production
11. Suggestions for improvement can come from anywhere
12. No man is independent as long as he has to depend on another man to help him. It is a reciprocal relation – the boss is the partner of his worker, the worker is partner of his boss. And such being the case, it is useless for one group or the other to assume that it is the one indispensable unit

### On Wages

1. There is nothing to running a business by custom – to saying: "I pay the going rate of wages." The same man would not so easily say: "I have nothing better or cheaper to sell

than any one has." No manufacturer in his right mind would contend that buying only the cheapest materials is the way to make certain of manufacturing the best article. Then why do we hear so much talk about the "liquidation of labor" and the benefits that will flow to the country from cutting wages – which means only the cutting of buying power and the curtailing of the home market? What good is industry if it be so unskillfully managed as not to return a living to everyone concerned? No question is more important than that of wages – most of the people in the country live on wages. The scale of their living – the rate of their wages – determines the prosperity of the country

2. If they see the fruits of hard work in their pay envelope – proof that harder work means higher pay – then also they begin to learn that they are a part of the business, and that its success depends on them and their success depends on it. The business limits the wages, but does anything limit the business? The business limits itself by following bad precedents.
3. There will never be a system invented which will do away with the necessity of work. Nature has seen to that. Idle hands and minds were never intended for any one of us. Work is our sanity, our self-respect, our salvation. So far from being a curse, work is the greatest blessing. Each social justice flows only out of honest work. The man who contributes much should take away much. Therefore no element of charity is present in the paying of wages. The kind of workman who gives the business the best that is in him is the best kind of workman a business can have. And he cannot be expected to do this indefinitely without proper recognition of his contribution. The man who comes to the day's job feeling that no matter how much he may give, it will not yield him enough of a return to keep him beyond want, is not in shape to do his day's work. He is anxious and worried, and it all reacts to the detriment of his work. But if a man feels that his day's work is not only supplying his basic need, but is also giving him a margin of comfort and enabling him to give his boys and girls their opportunity and his wife some pleasure in life, then his job looks good to him and he is free to give it of his best. This is a good thing for him and a good thing for the business. The man who does not get a certain satisfaction out of his day's work is losing the best part of his pay. When we are all in this business together, we all ought to have some share in the profits – by way of a good wage, or salary, or added compensation. And that is beginning now quite generally to be recognized.
4. Such are the fundamental truth of wages. They are partnership distributions.
5. When can a wage be considered adequate? How much of a living is reasonably expected from work? Have you ever considered what a wage ought to do? To say that it should pay the cost of living is to say almost nothing. The cost of living depends largely upon the efficiency of production and transportation; and the efficiency of these is the sum of the efficiencies of the management and the workers. Good work, well managed, ought to result

in high wages and low living costs. If we attempt to regulate wages on living costs, we get nowhere. The cost of living is a result and we cannot expect to keep a result constant if we keep altering the factors which produce the result. When we try to regulate wages according to the cost of living, we are imitating a dog chasing his tail. And, anyhow, who is competent to say just what kind of living we shall base the costs on? Let us broaden our view and see what a wage is to the workmen – and what it ought to be.

1. *Employees must have stability, a path to the dream, financial and non-financial recognition as well as a calm, secure, safe environment. Without these core attributes, they will never settle down and be able to focus fully on their job. There will be scarcity in the air and they will hoard their time, abilities, focus and more. There are certain things that can only be accomplished when people are all-in.*
2. *Pay enough so a parent can potentially stay at home with their kids if they want. This can have knock on effects of better-raised children who become better contributors which can lead to a better society*
6. If we can distribute high wages, then that money is going to be spent and it will serve to make storekeepers and distributors and manufacturers and workers in other lines more prosperous and their prosperity will be reflected in our sales. Country-wide high wages spell country-wide prosperity, provided, however, the higher wages are paid for higher production. Paying high wages and lowering production is starting down the incline toward dull business
7. The objection to a plan which pays out yearly profit sharing is that a man did not get his share until long after his work was done and then it came to him almost in the way of a present. It is always unfortunate to have wages tinged with charity
  1. *Must respect the goal-gradient effect. Monthly incentive payments rather than yearly so that people are continuously motivated. People will have clear physiological changes when a goal is near and in sight. Marathoners can even begin to sprint at the sight of a finish line!*
8. We wanted to pay these high wages so that the business would be on a lasting foundation. We were not distributing anything – we were building for the future. A low wage business is always insecure
9. If you expect a man to give his time and energy, fix his wages so that he will have no financial worries. It pays. Our profits after paying good wages and a bonus – which bonus used to run around ten millions a year before we changed the system – show that paying good wages is the most profitable way of doing business.
  1. *These kind of policies, though easily classified as “expensive,” don’t cost, but pay.*

10. The people, once paid enough and incented in the right way, make supervision unnecessary
1. *Once the employees become self-policing, you unleash an incredible amount of energy, time, industriousness, ingenuity, creativity that before was spent "managing" people, "politicking" and making sure others were doing their job. Now, you can hardly stop them from working because their self-interest is tied to the success of the company.*
11. Where does the money to make the wheels go round come from? From the consumer, of course. And success in manufacturing is based solely upon an ability to serve that consumer to his liking. He may be served by quality or he may be served by price. He is best served by the highest quality at the lowest price, and any man who can give to the consumer the highest quality at the lowest price is bound to be a leader in business, whatever the kind of article he makes. There is no getting away from this

### On Poverty & Privilege

1. Poverty springs from a number of sources, the more important of which are controllable. So does special privilege. I think it is entirely feasible to abolish both poverty and special privilege – and there can be no question but that their abolition is desirable. Both are unnatural, but it is work, not law, to which we must look for results.
2. Any plan which starts with the assumption that men are or ought to be equal is unnatural and therefore unworkable. There can be no feasible or desirable process of leveling down. Such a course only promotes poverty by making it universal instead of exceptional
3. The cure of poverty is not in personal economy but in better production. The "thrift" and "economy" ideas have been overworked. The word "economy" represents a fear. The great and tragic fact of waste is impressed on a mind by some circumstance, usually of a most materialistic kind. There comes a violent reaction against extravagance – the mind catches hold of the idea of "economy." But it only flies from a greater to a lesser evil; it does not make the full journey from error to truth. Economy is the rule of half-alive minds. There can be no doubt that it is better than waste neither can be any doubt that is not as good as use. People who pride themselves on their economy take it as a virtue. But what is more pitiable than a poor, pinched mind spending the rich days and years clutching a few bits of metal? What can be fine about paring the necessities of life to the very quick? We all know "economical people" who seem to be niggardly even about the amount of air

they breathe and the amount of appreciation they will allow themselves to give to anything. They shrivel – body and soul. Economy is waste: it is waste of the juices of life, the sap of living. For there are two kinds of waste – that of the prodigal who throws his substance away in riotous living, and that of the sluggard who allows his substance to rot from non-use. The rigid economizer is in danger of being classed with the sluggard. Extravagance is usually a reaction from suppression of expenditure. Economy is likely to be a reaction from extravagance.

4. Most men who are laboriously saving a few dollars would do better to invest those few dollars – first in themselves and then in some useful work. Eventually they would have more to save. Young men ought to invest rather than save. They ought to invest in themselves to increase creative value; after they have taken themselves to the peak of usefulness, then will be time enough to think of laying aside, as a fixed policy, a certain substantial share of income. You are not "saving" when you prevent yourself from becoming more productive. You are really taking away from your ultimate capital; you are reducing the value of one of nature's investments. The principle of use is the true guide. Use is positive, active, life-giving. Use is alive. Use adds to the sum of good.
5. The difficulty seems to be in getting to look beyond to the causes. More people can be moved to help a poor family than can be moved to give their minds toward the removal of poverty altogether.

### On Charity

1. I have no patience with professional charity, or with any sort of commercialized humanitarianism. The moment human helpfulness is systematized organized, commercialized and professionalized, the heart of it is extinguished, and it becomes a cold and clammy thing. Professional charity is not only cold but it hurts more than it helps. It degrades the recipients and drugs their self-respect. Worse than this encouragement of childish wistfulness, instead of training for self-reliance and self-sufficiency, was the creation of a feeling of resentment which nearly always overtakes the objects of charity. People often complain of the "ingratitude" of those whom they help. Nothing is more natural. In the first place, precious little of our so-called charity is ever real charity, offered out of a heart full of interest and sympathy. In the second place, no person ever relishes being in a position where he is forced to take favors.

2. Industry organized for service removes the need for philanthropy. Philanthropy, no matter how noble its motive, does not make for self-reliance. We must have self-reliance. A community is the better for being discontented, for being dissatisfied with what it has. I do not mean the petty, daily, nagging, gnawing sort of discontent, but a broad, courageous sort of discontent which believes that everything which is done can and ought to be eventually done better. Industry organized for service – and the workingman as well as the leader must serve – can pay wages sufficiently large to permit every family to be both self-reliant and self-supporting. A philanthropy that spends its time and money in helping the world to do more for itself is far better than the sort which merely gives and thus encourages idleness. Philanthropy, like everything else, ought to be productive, and I believe that it can be.
3. In clearing out the need for charity we must keep in mind not only the economic facts of existence, but also that lack of knowledge of these facts encourages fear. Banish fear and we can have self-reliance. Charity is not present where self-reliance dwells. Fear is the offspring of a reliance placed on something outside – on a foreman's goodwill, perhaps, on a shop's prosperity, on a market's steadiness. That is just another way of saying that fear is the portion of the man who acknowledges his career to be in the keeping of earthly circumstances. Fear is the result of the body assuming ascendancy over the soul. The habit of failure is purely mental and is the mother of fear. This habit gets itself fixed on men because they lack vision. They start out to do something that reaches from A to Z. At A they fail, at B they stumble, and at C they meet with what seems to be an insuperable difficulty. They then cry "beaten" and throw the whole task down. They have not even given themselves a chance really to fail; they have not given their vision a chance to be proved or disproved. They have simply let themselves be beaten by the natural difficulties that attend every kind of effort.
4. There is no security outside of himself. There is no wealth outside of himself. The elimination of fear is the bringing in of security and supply. Let every American become steeled against coddling. Americans ought to resent coddling. It is a drug. Stand up and stand out; let weaklings take charity

#### On Thomas Edison

1. No man exceeds Thomas A. Edison in broad vision and understanding. One time I managed to catch him alone for a moment and told him what I was working on. He was

immediately interested. He is interested in every search for new knowledge. And then I asked him if he thought that there was a future in the internal combustion engine. He answered something in this fashion: "Yes, there is a big future for any light-weight engine that can develop a high horsepower and be self-contained. No one kind of motive power is ever going to do all the work of the country. We do not know what electricity can do, but I take for granted that it cannot do everything. Keep on with your engine. If you can get what you are after, I can see a great future." That is characteristic of Edison. He was the central figure in the electrical industry, which was then young and enthusiastic. The rank and file of the electrical men could see nothing ahead but electricity, but their leader could see with crystal clearness that no one power could do all the work of the country. I suppose that is why he was the leader.

2. Edison believes all things are possible. At the same time he keeps his feet on the ground. He goes forward step by step. He regards "impossible" as a description for that which we have not at the moment the knowledge to achieve. He knows that as we amass knowledge we build the power to overcome the impossible.
3. Edison is easily the world's greatest scientist. I am not sure that he is not also the world's worst business man. He knows almost nothing of business.

### On John Burroughs

1. Poverty springs from a number of sources, the more important of which are controllable. So does special privilege. I think it is entirely feasible to abolish both poverty and special privilege – and there can be no question but that their abolition is desirable. Both are unnatural, but it is work, not law, to which we must look for results.
2. This was part of John Burroughs' sanity – he was not afraid to change his views. He was a lover of Nature, not her dupe. In the course of time he came to value and approve modern devices, and though this by itself is an interesting fact, it is not so interesting as the fact that he made this change after he was seventy years old. John Burroughs was never too old to change. He kept growing to the last. The man who is too set to change is already dead. The funeral a mere detail.
3. If he talked more of one person than another, it was Emerson. Not only did he know Emerson by heart as an author, but he knew him by heart as a spirit. He taught me to know Emerson. He had so saturated himself with Emerson that at one time he thought as he did

and even fell into his mode of expression. But afterward he found his own way – which for him was better.

1. *Has moved beyond the ignorance paradox and gained deep fluency but gained mastery once he developed his own style*

## On Thinking & Education

1. An able man is a man who can do things, and his ability to do things is dependent on what he has in him. What he has in him depends on what he started with and what he has done to increase and discipline it. An educated man is not one whose memory is trained to carry a few dates in history – he is one who can accomplish things. A man who cannot think is not an educated man, however many college degrees he may have acquired. Thinking is the hardest work any one can do – which is probably the reason why we have so few thinkers. There are two extremes to be avoided: one is the attitude of contempt toward education, the other is the tragic snobbery of assuming that marching through an educational system is a sure cure for ignorance and mediocrity.
2. The best education can do for a man is to put him in possession of his powers, give him control of the tools with which destiny has endowed him, and teach him how to think. The college renders its best service as an intellectual gymnasium, in which mental muscle is developed and the student strengthened to do what he can. To say, however, that mental gymnastics can be had only in college is not true, as every educator knows. A man's real education begins after he has left school. True education is gained through the discipline of life
3. The only reason why every man does not know everything that the human mind has ever learned is that no one has ever yet found it worthwhile to know that much. Men satisfy their minds more by finding out things for themselves than by heaping together the things which somebody else has found out. You can go out and gather knowledge all your life, and with all your gathering you will not catch up even with your own times. You may fill your head with all the "facts" of all the ages, and your head may be just an overloaded fact-box when you get through. The point is this: great piles of knowledge in the head are not the same as mental activity. A man may be very learned and very useless. And then again, a man may be unlearned and very useful

4. The object of education is not to fill a man's mind with facts; it is to teach him how to use his mind in thinking. And it often happens that a man can think better if he is not hampered by the knowledge of the past
5. One good way to hinder progress is to fill a man's head with all the learning of the past; it makes him feel that because his head is full, there is nothing more to learn. Merely gathering knowledge may become the most useless work a man can do. What can you do to help and heal the world? That is the educational test. If a man can hold up his own end, he counts for one. If he can help ten or a hundred or a thousand other men hold up their ends, he counts for more. When a man is master of his own sphere, whatever it may be, he has also won his degree – he has entered the realm of wisdom

#### Other

1. What we accumulate by way of useless surplus does us no honor
2. There are two fools in this world. One is the millionaire who thinks that by hoarding money he can somehow accumulate real power, and the other is the penniless reformer who thinks that if only he can take the money from one class and give it to another, all the world's ills will be cured. They are both on the wrong track. They might as well try to corner all the checkers or all the dominoes of the world under the delusion that they are thereby cornering great quantities of skill. Some of the most successful money-makers of our times have never added one pennyworth to the wealth of men. Does a card player add to the wealth of the world?
3. I am not a reformer. I think there is entirely too much attempt at reforming in the world and that we pay too much attention to reformers. We have two kinds of reformers. Both are nuisances. The man who calls himself a reformer wants to smash things. He is the sort of man who would tear up a whole shirt because the collar button did not fit the buttonhole. It would never occur to him to enlarge the buttonhole. This sort of reformer never under any circumstances knows what he is doing. Experience and reform do not go together. A reformer cannot keep his zeal at white heat in the presence of fact. He must discard all facts.
4. Our only advantage was lack of precedent
5. We are often too wrapped up in the things we are doing – we are not enough concerned with the reasons why we do them. Our whole competitive system, our whole

creative expression all the play of our faculties seem to be centered around material production and its by-products of success and wealth

6. It is not true that opportunity has been lost in organization. If the young man will liberate himself from these ideas and regard the system as it is, he will find that what he thought was a barrier is really an aid
7. Our help does not come from Washington but from ourselves
8. Business and government are necessary as servants, like water and grain; as masters they overturn the natural order
9. There can be no greater absurdity and no greater disservice to humanity in general than to insist all men are equal. Most certainly all men are not equal and any democratic conception which strives to make men equal is only an effort to block progress. Men cannot be of equal service. The men of larger ability are less numerous than men of smaller ability; it is possible for a mass of the smaller men to pull the larger ones down – but in so doing they pull themselves down. It is the larger men who give the leadership to the community and enable the smaller men to live with less effort.
10. Lack of knowledge is what is going on and lack of knowledge of what the job really is and the best way of doing it are the reasons why farming is thought not to pay. Nothing could pay the way farming is conducted. The farmer follows luck and his forefathers. He does not know how economically to produce, and he does not know how to market. A manufacturer who knew how neither to produce nor to market would not long stay in business. That the farmer can stay on shows how wonderfully profitable farming can be. The way to attain low priced and high volume production means plenty for everyone – is quite simple. The trouble is that the general tendency is to complicate very simple affairs. Take for instance, an “improvement.” When we talk about improvements we have in mind some change in a product. An “improved” product is one that has been changed. That is my idea. I do not believe in starting to make until I have discovered the best possible thing. This, of course, does not mean that a product should never be changed, but I think that it will be found more economical in the end not even to try to produce an article until you have fully satisfied yourself that utility, design, and material are the best. If your researches do not give you that confidence, then keep right on searching until you find confidence. The place to start manufacturing is with the article. The factory, the organization, the selling and the financial plans will shape themselves to the article. You will have a cutting edge on your business chisel and in the end you will save time. Rushing into manufacturing without being certain of the product is the unrecognized cause of many business failures. People seem to think that the big thing is the factory or the store or the financial backing or the management. The big thing is the product, and any hurry in getting

into fabrication before designs are completed is just so much wasted time. I spent twelve years before I had a Model T – which is what is known today as the Ford car – that suited me. We did not attempt to go into real production until we had a real product. That product has not been essentially changed. We are constantly experimenting with new ideas. If you travel the roads in the neighborhood of Dearborn you can find all sorts of models of Ford cars. They are experimental cars – they are not new models. I do not believe in letting any good idea get by me, but I will not quickly decide whether an idea is good or bad. If an idea seems good or seems even to have possibilities, I believe in doing whatever is necessary to test out the idea from every angle. But testing out the idea is something very different from making a change in the car. Where most manufacturers find themselves quicker to make a change in the product than in the method of manufacturing – we follow exactly the opposite course. Our big changes have been in methods of manufacturing. They never stand still. I believe there is hardly a single operation in the making of our car that is the same as when we made our first car of the present model. That is why we make them so cheaply. The few changes that have been made in the car have been in the direction of convenience in use or where we found that a change in design might give added strength. The materials in the car change as we learn more and more about materials. Also we do not want to be held up in production or have the expense of production increased by any possible shortage in a particular material, so we have for most parts worked out substitute materials. Vanadium steel, for instance, is our principal steel. With it we can get the greatest strength with the least weight, but it would not be good business to let our whole future depend upon being able to get vanadium steel. We have worked out a substitute. All our steels are special, but for every one of them we have at least one, and sometimes several, fully proved and tested substitutes. And so on through all of our materials and likewise with our parts. In the beginning we made very few of our parts and none of our motors. Now we make all our motors and most of our parts because we find it cheaper to do so. But also we aim to make some of every part so that we cannot be caught in any market emergency or be crippled by some outside manufacturer being unable to fill his orders.

11. It could almost be written down as a formula that when a man begins to think that he has at last found his method he had better begin a most searching examination of himself to see whether some part of his brain has not gone to sleep. There is a subtle danger in a man thinking that he is "fixed" for life. It indicates that the next jolt of the wheel of progress is going to fling him off. There is also the great fear of being thought a fool. So many men are afraid of being considered fools. I grant that public opinion is a powerful police influence for those who need it. Perhaps it is true that the majority of men need the restraint

of public opinion. Public opinion may keep a man better than he would otherwise be – if not better morally, at least better as far as his social desirability is concerned. But it is not a bad thing to be a fool for righteousness' sake. The best of it is that such fools usually live long enough to prove that they were not fools – or the work they have begun lives long enough to prove they were not foolish.

12. The temptation to stop and hang on to what one has is quite natural. I can entirely sympathize with the desire to quite a life of activity and retire to a life of ease. I have never felt the urge myself but I can comprehend what it is – although I think that a man who retires ought entirely to get out of business. There is a disposition to retire and retain control. It was, however, no part of my plan to do anything of that sort. I regarded our progress merely as an invitation to do more – as an indication that we had reached a place where we might begin to perform a real service. I had been planning every day through these years toward a universal car. The public had given its reactions to the various models. The cars in service, the racing, and the road tests gave excellent guides as to the changes that ought to be made, and even by 1905 I lacked the material to give strength without weight. I came across that material almost by accident
13. Nothing is more foolish than for any class to assume that progress is an attack upon it. Progress is only a call made upon it to lend its experience for the general advancement. It is only those who are unwise who will attempt to obstruct progress and thereby become its victims. All of us are here together, all of us must go forward together; it is perfectly sill for any man or class to take umbrage at the stirring of progress. If financiers feel that progress is only the restlessness of the weak-minded persons, if they regard all suggestions of betterment as a personal slap, then they are taking the part which proves more than anything else could their unfitness to continue in their leadership
14. I have no quarrel with the general attitude of scoffing at new ideas. It is better to be skeptical of all new ideas and to insist upon being shown rather than to rush around in a continuous brainstorm after every new idea. Skepticism, if by that we mean cautiousness, is the balance wheel of civilization. Most of the present acute troubles of the world arise out of taking on new ideas without first carefully investigating to discover if they are good ideas. An idea is not necessarily good because it is old, or necessarily bad because it is new, but if an old idea works, then the weight of the evidence is all in its favor. Ideas are of themselves extraordinarily valuable, but an idea is just an idea. Almost anyone can think up an idea. The thing that counts is developing it into a practical product.
  1. *“Out of very hundred new ideas ninety-nine or more will probably be inferior to the traditional responses which they propose to replace. So the conservative who resists change is as valuable as the radical who proposes it—perhaps as much more valuable as roots are*

*more vital than grafts. It is good that new ideas be heard, but it is also good that new ideas be compelled to go through the mill of objection, opposition, and contumely; this is the trial heat which innovations must survive before being allowed to enter the human race. Out of this tension comes a creative tensile strength, a stimulated development, a secret and basic unity and movement of the whole.” – Will Durant*

15. Freedom is the right to work a decent length of time and to get a decent living for doing so; to be able to arrange the little personal details of one's own life. It is the aggregate of these and many other items of freedom which makes up the great idealistic Freedom. The minor forms of Freedom lubricate the everyday life of all of us.
16. The very young critic is much imbalanced
17. Nature has vetoed the whole Soviet Republic for it sought to deny nature. It denied above all else the right to fruits of labor.
18. Our help does not come from others but from ourselves
19. No two things in nature are exactly alike
20. Law of diminishing returns begins to operate at the point where strength becomes weight. Weight may be desirable in a steam roller but nowhere else. Strength has nothing to do with weight. The mentality of the man who does things in the world is agile, light, and strong. The most beautiful things in the world are those from which all excess weight has been eliminated. Strength is never just weight - either in men or in things. Whenever anyone suggests to me that I might increase weight or add a part, I took into decreasing weight and eliminating a part! The car that I have designed was lighter than any car that had yet been made. It would have been lighter if I had known how to make it so - later I got the materials to make the lighter car.
21. I only want to know whether the greatest good is rendered to the greatest number
22. Any successful system must check human nature; not depend on it
23. What is desirable and right is never impossible
24. You can never develop Mexico until you develop the Mexican
25. A country becomes great when, by the wise development of its resources and the skill of its people, property is widely and fairly distributed
26. It is the right act sincerely done that counts
27. Those who shout loudest about democracy I think, as a rule, want it least

## What I got out of it

1. One of my favorite biographies and business books of all time. Extremely clear thinker, does what works rather than what others think is right, never accepted anything as true and questioned everything, sought simplicity in all that he did, was never “done”. He of course had some great flaws such which we should be weary of but we can absorb and incorporate his teachings while recognizing his faults.

