

## INTRODUCING MARKETING INTO SCIENTIFIC MANAGEMENT: 1920-1927

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## ABSTRACT

Henry Dennison, President of the Taylor Society on June 25, 1920, said that while Scientific Management was improving production, it was becoming evident that there were difficulties arising from an absence of coordination between selling and manufacturing. Therefore, he believed the followers of Scientific Management could "serve the business community by inspiring as many as possible to approach the selling problem along the same lines, probably, that Mr. Taylor approached the production problem." [Dennison, p. 200] The attempt to accomplish this during the years 1920-1927 is outlined below.

## INTRODUCTION

On November 9, 1910, a group was organized in New York City to discuss and promote scientific management [Kent, Yost]. Meetings continued for two years and on December 4, 1912 a formal organization, The Society to Promote the Science of Management was formed and now has merged into the Society for the Advancement of Management (SAM). In 1916, at the suggestion of Frank Gilbreth, the name of the society was changed to The Taylor Society. After World War I, it was felt that the Society should expand its activities and establish a central office with a salaried executive. This office was established on April 1, 1919, with Harlow S. Person as managing director.

Person decided that the society should concentrate on two activities: education and service to members. The educational activities of the society during the period 1920-1927 have particular merit for anyone interested in various facets of marketing history. During this period, Person saw the meetings and THE BULLETIN OF THE TAYLOR SOCIETY as a way of educating managers and management engineers. The meetings were planned to consider "problems of current interest and fundamental importance to industry." [Person, 1922a, p. 205] The BULLETIN was designed to "put on permanent record, for careful study, the most valuable papers of these meetings ...." [Person, 1922a, p. 205]. We can therefore turn to the papers given at the meetings and printed in the BULLETIN to see what Person considered important contributions for educating managers in the thinking of the period concerning marketing.

## THE FIRST CONFERENCE OF SALES EXECUTIVES

As early as the Spring of 1920 a group of members of the Taylor Society felt that selling was not well understood by its members and called for a

conference of sales executives, which occurred on June 25, 1920 in New York City. There were 105 sales executives present for an the day meeting. One attendee, E. St. Elmo Lewis, noted that, "The attendance here indicates that the sales managers have come to realize their problem (of being unscientific). ... I understand the Taylor Society did not expect more than twenty-five or thirty sales executives at this meeting, and there are over a hundred! Such attendance indicates that although it is asserted that nine out of ten salesman say science hasn't anything to do with selling, there are a number of sales executives who are inclined to push the inquiry." [Lewis, p. 211.]

As might be expected for this group, it first ventured into the marketing field was through the coordinating of sales with scientific production. The conference was divided into two parts: the coordinating the sales process with the manufacturing process and the management of the sales process. Presiding at this meeting and giving the opening address, Henry Dennison asked, "can the fundamental principles upon which Taylor did so much work in the factory be widely and rapidly applied to our selling problems?" [Dennison, p. 201] He spoke about the time honored problem of controlling salespeople, especially with the use of quotas. As a control mechanism, "it has been put into effect to some extent by furnishing quota for salesmen. But those of us who have had some experience with the old-fashioned way of setting piece rates by the foreman, must realize that a quota set by sales managers on rough, incorrect statistical information, is mightly little better if not a good deal worse than no quota at all. ... In other words, to use the language of the selling end, isn't it true that commissions, that quota, that performance rates of all sorts, would best be left untouched unless they can be set on a basis that is sound, that is the result of thorough and scientific study?" [Dennison, p. 201]

The afternoon keynote speaker was W. E. Freeland, then Sales Engineer of the Winchester Repeating Arms Company, who explained how his company separated planning from doing, an old Taylor concept. Mr. Otterson, president of Winchester, organized the Sales Engineering Department and "attempted to put men of the necessary psychological makeup into the planning work which became the sales engineering, and the men of the driving, forceful operating type into what we call sales production." [Freeland, 1920, p. 203]. Freeland noted that, "planning and production aptitudes and temperaments in any one sales manager is extremely rare just as it is rare in the factory manager. ... The planning for future projects is the work of the sales engineering. The planning of current projects is the work of the production divisions." [Dennison, 1920, p. 203] In outlining the work of his Sales Engineering Department, Freeland listed the following: select items and lines to be manufactured; make field surveys to determine new uses for our old products; study packing and shipping methods; try to give advance reports on new products and changes in old products that will affect sales efforts; be an advisory inspection organization of the sales efforts and results. When projects conflict in the manufacturing side, it is up to the Sales Engineering Department to advise the manufacturing engineers as to the priorities of the various projects. [Freeland, 1920, pp. 203-205] He said, "We instituted sales engineering because in our thinking there was a precise parallel between sales and production in the need of setting engineering up

as a separate organization, as manufacturing engineers are set up." [Freeland, 1920, p. 207]

At the same conference, during the afternoon discussion, Charles B. Crockett, noted that Frederick Taylor brought "trouble to the sales department because we salesman are the most confirmed guessers in the world, and scientific management and scientific selling do not permit of guessing." [Crockett, p. 212] He did seem to bring the most pertinent questions to the meeting. He said that he wanted answers to the following questions: "What are you doing to analyze the market? What research work are you carrying on to tell with some degree of assurance what the potential market is? ... Do you think that salesmen can be built or are they born? ... I task my men. It is a guess task and that is wrong. Some of you may have figured out a scientific way of tasking a salesman. ... I want to know more about my job. ... Let us find out what our job is from a scientific standpoint, and then we can thrash out the details" [Crockett, p. 213, 215]

With that statement in mind, Dennison was able to relate some initial work in finding out what salespeople do. He said, "We decided to try to find out the nature of the salesman's job, and to subject it to Mr. Taylor's method of job analysis, -- time study, if you please. Our first reports, -- on an apparently typical salesman, although we realize we must do twenty times as much work before we have any thorough results, -- show that forty per cent of his time is spent in travel. That is a pretty expensive investment. ... We found also that sixteen per cent of the salesman's time is spent waiting for an interview; fifteen per cent is sales conversation -- selling; and six per cent is miscellaneous conversation. Only fifteen percent in actual sales conversation!" [Dennison, 1920, p. 218] The conference seemed to be well summed up when William Barrows, a management consultant, said, "The management doesn't know enough about the salesmen. The salesmen live in the atmosphere of the customer." [Barrows, p. 221]

#### SOCIETY PAPERS AT REGULAR SOCIETY MEETINGS

Harry R. Wellman, Professor of Marketing at Dartmouth College, chaired a session of the Taylor Society in December of 1921. He caustically said, "We have been told that of all the unorganized, wasteful, extravagant, and generally useless branches of business, sales occupied the front seat. The lamentable part of it is, that statement itself is fairly accurate." [Wellman, 1922, p. 31] One person who was over coming this problem, he said, was Charles P. Staubach, one time General Sales Manager of the Burroughs Adding Machine Company.

Staubach presented marketing papers in October [Staubach, 1921] and December [Staubach, 1922] of 1921. The first paper was on quota or territorial valuation, the second paper on apportioning sales overhead. Although the first paper is quite simple, the "overhead" paper shows a well developed understanding of accounting cost allocation methods for the sales area, even to the point of allocating the costs of former salespersonnel. This paper presents a very early development in territorial decentralization. Staubach developed the idea that, "The proper method of ascertaining the territorial profit or loss would seem to be to credit each unit with the entire revenue

it produces, and secure the net revenue by deducting its direct expenses, such as salaries, commissions, traveling expense, etc. Next, to charge in a statistical way, against it, its proper share of all items of Home Office expense, field supervision, and in general all expenditures and costs not already included in manufacturing overhead or direct expenses. Having done this, the share of this general overhead, apportioned to the unit, being deducted from its net revenue to the concern, indicates the extent of its actual marketing profit or loss." [Staubach, 1922, p. 27]

In March of 1922, John M. Holcombe, Jr. presented a paper entitled "A Case of Sales Research." It only discussed the selection of life insurance salesmen. He said, "Shall we not recognize the existence of human difference in the matter of the selection of agents and endeavor to study scientifically this question just as we have scientifically studied the acceptability of risks for the last fifty years?" [Holcombe, p. 114] Those interested in the trait theory of leadership would find this paper of great interest.

The real campaign to introduce marketing concepts to members of the society began on November 23, 1922, when Harlow Person gave a paper on "Shaping Your Management to Meet Developing Industrial Conditions" [Person, 1922b]. In this paper Person stressed that management had to establish "some unit of the organization, whether it be an individual or a group, which will make continuous and precise analysis of the market and provide the data for master plans and schedules. Call it what you will -- market research, merchandise research, sales engineering" [Person, 1922b, p. 215].

On June 7, 1923 Harry R. Wellman delivered a paper on "The 1923 Model Sales Machine." [Wellman, 1923]. In his paper Wellman explained that market research was initiated in the years 1913-1915 and that, "thanks to the efforts of the Taylor Society," it became evident that something had to be done about increasing sales costs. The profits earned during the war seemed to make such research unnecessary and these departments were discarded. By 1921, however, the problem of poor sales returned and by 1923 it had become recognized that sales planning was an essential part of sales management.

Wellman's "1923 Sales Machine" would operate on current statistics and accept sales planning only after research and analysis as the essential part of the organization. It would use the results of market planning to guide the financial and production divisions of the organization and then work in harmony with these divisions to create an accurate sales operating plan.

On July 14, 1923, L. J. Conger, President and Sales Manager of the Corona Typewriter Company, delivered a paper on the "Tie-up of Sales and Production." [Conger]. In this paper Conger said that although the industrial world "owes an immense debt to the Taylor Society for the development of practical solutions of production problems, and if the work which the Society is now starting with respect to a similar development in sales work is reasonably successful, the debt will be increased many fold" [Conger, p. 137]. The successful relationship between sales and production, said Conger, depends almost entirely on the development of analytical sales methods which did not, as yet, exist. However, he stressed that sales interests could build their analytical methods on the same lines as

production analysis.

On January 28, 1924, G. Douglas Mercer of the Flintkote Company delivered a paper before the Taylor Society on how scientific management had helped him to improve the distribution of products [Mercer]. Mercer revealed that his marketing ideas were developed while he was working under Keppel Hall at the Clinton Wire Cloth Company in 1919, and that he was utilizing some of the principles of scientific management for marketing.

Mercer explained that Clinton Wire Cloth manufactured screen cloth, netting, and heavy woven wire, woven wire cloth and welded wire fabric for plastering and reinforcing concrete. A study by Hall revealed the products could be divided into two sales divisions, one distributing through hardware channels and the other through the construction trade. As scientific management improved the output of the company's seven hundred machines it became necessary to construct an adequate sales department. To create a superior sales department Mercer employed sales training that included training, task and bonus, time studies and routing, similar to the methods of scientific management employed in a factory.

The longest and most complete paper on marketing during this period was presented by Joseph H. Barber of the Walworth Manufacturing Company of Boston on April 25, 1924 [Barber]. This paper explains the method used by his company to develop sales forecasts and from these production schedules. The system is built on the "Cycle Theory," that is the belief that "when one thing happens in business something else may be expected to happen." [Barber, p. 111] Plotting the company monthly sales against the Harvard Curve B (of business cycles) and calculating moving averages based on monthly figures, the company was able to develop three sales projections for the coming year. For 1923 the company had developed seasonal movements and monthly billings based on a 25%, 12.5% and zero increase over the 1922 figure. Each projection plotted quarterly sales. Once yearly sales were forecasted, then the yearly production schedule could be developed. This production schedule would have monthly or seasonally consistent levels of production and not the generally fluctuating types common in industry. Did it work? The president of Walworth is quoted as saying, "Here are the results for the year 1922: Our actual sales come within .5 per cent of our estimate. Cumulatively the first six months were 8 per cent in excess of the estimate; the first nine months were 4.3 per cent, but the full year's figures were so close to the estimate as to be a coincidence. ... Of all these benefits, probably the greatest has been our ability to operate on an even basis throughout the year. Under the old condition we would have produced 16 per cent of our total requirements in the first quarter; 22 per cent in the second quarter; 28 per cent in the third quarter; and 34 per cent in the fourth quarter. In 1922 it was possible to equalize approximately the quarterly production figures. In these days when seasonal employment is one of the country's greatest problems, when labor turnover is great and when an actual shortage of labor has occurred, continuous employment at fair wages is the stimulus to the good workmen that no temporary attraction can equal." [Barber, pp. 130-131]

On May 15, 1924, Ralph E. Einfeldt stressed the interdependence of production-engineering and merchandising [Einfeldt]. In his paper, Einfeldt said the

term advertising agent was an anachronism and the term "marketing engineer" was probably more realistic. He also made the following points concerning the interdependence of engineering and merchandising: (1) just as the sales department needed efficient manufacturing in back of it to meet competition, so must the manufacturing department have competent marketing to allow it to operate effectively, (2) when the distribution of goods is broad, the manufacturer must use mass selling methods just as he does mass manufacturing, and (3) that marketing had to employ the same effectiveness and scientific methods in marketing that the engineer employed in manufacturing.

On April 15, 1926, W. E. Freeland, now assistant professor at M.I.T., presented a talk before the Taylor Society on the progress towards the development of a science of marketing. [Freeland]. Although Freeland acknowledged that "marketing lags thirty years behind in the adoption of the scientific method in its management..." [Freeland, p. 207]. He also demonstrated that "here and there in business the application of the scientific method can be found." [Freeland, p. 207].

In this talk, Freeland compared the development of scientific management in production with a science of marketing; he then developed comparisons between scientific management and marketing as outlined below.

#### TEN COMPARISONS BETWEEN SCIENTIFIC MANAGEMENT AND MARKETING

- "1. Job analysis and time study: developing slowly but steadily in marketing.
2. Standardizing working conditions and methods: already highly developed in some sales organizations.
3. Development of special machines and tools: a parallel is found in sales in the development of selling aids.
4. Functional division of organization: now quite common in larger sales organizations.
5. Staff development: one of the marked developments in marketing.
6. Planning and scheduling operations: but little developed in marketing as compared with production.
7. Preparation to prevent delays and wastes: little developed in marketing.
8. Inspection of operation of plans and processes: well developed in some large sales organizations and almost entirely neglected in most smaller businesses.
9. Budgetary control: well developed in companies with strong research staffs but very weak in most others.
10. Master plans of future activities: little developed in most businesses." [Freeland, p. 213].

In 1927, Person concluded his seven-year campaign in the area of marketing by conducting a survey of 175 companies which were considered the most progressive in marketing. The results of the 1927 survey revealed there had been "a development in concepts such as Merchandising, as distinct from Selling, and in supporting practical procedures" [Person, 1927]. This 1927 survey is reproduced as Appendix A.

## CONCLUSION

The evolution of marketing thought took many paths. This paper discussed the work found in the pages of THE BULLETIN OF THE TAYLOR SOCIETY before 1927. Although an important management assemblage, the Taylor Society was interested in all the functional areas and tried to match Scientific Management methods to marketing needs.

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## APPENDIX A

# Manufacturers' Marketing Survey

Reported and Discussed at a Meeting of the Taylor Society

New York, Decemder 10th, 1927

This survey is not, and was not intended to be, a sample of American industry; it is a sample of that group of concerns which are by repute most progressive in marketing. Of the 275 questionnaires which were sent out, seventy-nine were returned in time for inclusion in the preliminary analysis which follows.

The analysis shows clearly that the distinction between merchandising and selling, in organization and in detail procedures, is becoming a dominant characteristic of marketing among most progressive concerns. In this connection it is interesting to note that the seven per cent giving negative replies to both questions A 1 and A 2 are manufacturers of machinery and other producers' goods as distinguished from consumers' goods.

A comparison of these returns with the returns to a questionnaire addressed to a similar though smaller group of firms in 1920 (BULLETIN OF THE TAYLOR SOCIETY, Vol. V, No. 6, December, 1920) is interesting, although the two are not comparable in detail. The earlier questionnaire made a distinction between Sales Administration, Sales Engineering and Sales Operating. At the earlier date about half of those replying stated that they were working towards co-ordination of sales, production and finance; a concept corresponding only roughly to Merchandising in the present questionnaire. With respect to Sales Planning, as distinguished from Selling, in the earlier questionnaire some eighty-five per cent recognized the principle, but only fifty-five per cent in more or less developed practice.

With respect to the present questionnaire it is evident that in seven years there has been a development in concepts such as Merchandising, as distinct from Selling, and in supporting practical procedures, that there is established a common basis for study and discussion of "whys" and "hows."  
[Editor]

## Definitions

**Merchandising:** A function which comprises co-ordination of the sale and the manufacture of goods to be sold; determination of varieties, qualities and quantities of items; determination of markets and trade channels; determination of list prices.

**Selling:** A function which comprises arrangement of territories; the selection, training, direction and supervision of salesmen; the arrangement and carrying out of sales campaigns.

Questionnaire Organization	YES	NO
	Per cent	Per cent
A 1. Do you in your organization structure recognize a distinction between merchandising and selling?.....	63	37

	YES Per cent	NO Per cent
A 2. If you do not recognize such a distinction in your organization structure, do you recognize it in your practice?.....	80	20
This question applies to the thirty-seven per cent who answered "No" to question A 1. The proportion of those who recognize the distinction either in organization or practice to those who recognize it neither in organization nor practice is.....	93	7

### Merchandising

B 1. Do you have in your organization a unit or an individual whose special function is to study merchandise relative to—		
a. Tendency towards obsolescence of standard items.....	61	39
b. New uses for standard items.....	57	43
c. Creation of new items.....	69	31
d. Determination of list price of items.....	63	27

Of those replying, forty-nine per cent answered "Yes" to all subdivisions; twenty-seven per cent answered "No" to all.

B 2. If you do not have such a special unit or individual as is specified in the preceding question, does some unit or individual in your organization give a definite continuing amount of time to such studies?.....	89	11
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Combining B 1 and B 2 the proportion of those who do to those who do not give attention to merchandising is.....

	95	5
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B 3. Do you have in your organization a unit or an individual whose special function is to study markets relative to—		
a. The amount of production of the several items necessary to meet the market requirements at different seasons and periods?.....	59	41
b. Control of inventories of finished product?.....	65	35

B 4. If you do not have such a special unit or individual as is specified in the above question, does some unit or individual give currently an appreciable amount of time to such studies?.....	88	12
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The replies analyzed are the "No" replies to B 3

B 5. Whether or not you make such studies as are indicated in the above questions, do you prepare periodic budgets or forecasted schedules of sales for definite periods in advance, as follows—		
a. General schedules?.....	94	6
b. By territorial divisions?.....	77	23
c. By items?.....	75	25
d. By classes of trade?.....	36	64

B 6. If you prepare such schedules, are they subject to continuing revision in the light of sales experience as a period develops?.....	82	18
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Selling		YES	NO
		Per cent	Per cent
C 1.	Do you have any special provision for selection of salesmen—tests or other devices?.....	38	62
C 2.	Do you have any provision for the special training of salesmen?.....	68	32
C 3.	Do you make continuing or special studies of sales territories as a basis of assignments to salesmen?.....	78	22
C 4.	On what basis are salesmen paid?		
a.	Straight salary.....	33	
b.	Salary and bonus.....	21	
c.	Straight commission.....	21	
d.	Salary and commission.....	13	
e.	Drawing account against commission.....	9	
f.	Salary, commission and bonus.....	3	
C 5.	Do you have any method of "rating" salesmen's ability.....	59	41
C 6.	Do you have in your sales department a unit corresponding in principle to the "planning room" of a production department, which—		
a.	Schedules salesmen?.....	50	50
b.	Prepares material for salesmen?.....	78	22
c.	Prepares information for salesmen?.....	84	16
d.	Checks progress of sales—		
1.	by territorial units?.....	89	11
2.	by salesmen?.....	84	16
3.	by items or classes of items?.....	81	19
A large number of "Noes" to D 1, D 2, and D 3 is from the same companies			
C 7.	Do you establish sales quotas?		
a.	Based on past sales?.....	78	22
b.	Built up on forecasted market possibilities?.....	76	24
c.	By salesmen?.....	66	34
d.	By territorial divisions?.....	82	18
e.	By individual products or items?.....	69	31

## General

D 1. What are the two or three outstanding new and apparently permanent problems of marketing management which have come to you during the past eight years?

Listed in approximate order of frequency:

1. Hand to mouth buying.
2. Selection, training, and supervision of salesmen.
3. Newer methods of distribution.
4. Reduction of distribution costs.
5. Advertising.
6. Sales Research.
7. Competition (price cutting, cheaper lines, substitution, foreign, etc.)
8. Chain stores, co-operatives, and syndicate buying groups.
9. Market analysis.
10. Change in style, demand, etc.
11. Organization of retail outlets, and overcoming the ignorance of the retailer.
12. Use of nationally advertised brands by retailers as "loss leaders."
13. Establishment of sales quotas.
14. Special to particular industries. (Used cars, prison-made goods, etc.)
15. Sales budgeting.
16. Scientific determination of selling costs.
17. Operation in buyer's instead of seller's market.
18. Filling out lines to smooth production and sales curves.
19. Quicker obsolescence.
20. Adaptation of product and package to suit tastes of consumer.
21. Interest of wholesalers in their own private brands.
22. To increase the efficiency of the wholesale point.
23. Multiplicity of numbers exactly alike.
24. Increased demand on manufacturers for special orders and immediate service.
25. Planning of merchandise to anticipate seasonal demand.
26. Location of stocks.
27. Increased production.

THE BUSINESS MAN of the future must become more and more a master of the sort of prophecy that straight and impersonal thinking makes possible. It means that the business man must apply scientific thinking to his problem. By scientific thinking I mean the sort of thinking that judges by results; that judges on the basis of facts instead of hopes, wishes, dreams, prejudices, or conventions . . . If we refuse to improvise, to guess, and to gamble, and force ourselves to think clearly from cause to effect, we shall see that whatever is going to happen in business and industry during the next ten or twenty years is really here now—if we only take the trouble to see it. When we business men are taken

by surprise at some turn of affairs that upsets our calculations, we are too likely to say, "Now, who'd have thought that possible?" So many unprecedented things are going to happen in the next decade or so that it behooves us to get into the habit of thinking ahead and of saying, when we are surprised, only, "Now, what factor did I overlook in my planning?" There is a French phrase which runs: *Voir; Prevoir; Pourvoir*, which, freely translated, means "see to foresee; foresee in order to provide." This is a motto that we business men would do well to keep conspicuously on our desks during the years of change and readjustment that lie just ahead. (Edward A. Filene, *The Way Out*, pp. 50-52.)