

# THE MONOTYPE RECORDER

A JOURNAL FOR USERS AND  
PROSPECTIVE USERS OF  
"MONOTYPE"  
MACHINES, MATRICES AND EQUIPMENT

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# CONTENTS OF No. I VOLUME XXXIV

ORGANIZATION AND ECONOMY of Production with "Monotype" Machines, by RICHARD BATES, p. 3	
THE MODERN TIME-TABLE .. .. . p. 9	"BACK ALONG" ( <i>Memoirs of a Comp</i> ), by H. DYKE SMITH p. 20
"OUR PRIVATE TYPEFOUNDRY" .. .. . p. 15	THE GENERAL PRINTER ( <i>Verses</i> ) .. .. . p. 22
THE M.U.A. LUNCHEON .. .. . p. 17	A NEW "MONOTYPE" MOULD .. .. . p. 23
BOOKS AT BURLINGTON HOUSE .. .. . p. 17	QUESTIONS OF INTEREST, on technical and general subjects, answered by our Typographic and Technical Experts p. 24
THE UNIT ( <i>Historical</i> ), by R. C. ELLIOTT .. .. . p. 18	
ART-PAPER SUPPLEMENT: PICTURES OF THE QUARTER, facing p. 14	
A SPECIMEN OF PERPETUA DISPLAY TITLING, AND UPPER AND LOWER CASE, p. 18	
BRANCHES, AGENTS AND FOREIGN ADDRESSES, cover iii	

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## EDITORIAL COMMENTARY

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### OUR LEADING ARTICLE

"Share your good" is the watchword of the modern printer. Mr. Richard Bates is a successful master printer of Manchester who long ago realised the unique advantages of separate-type mechanical composition, and now lays before every printer the fruits of his experience. Several of the points he raises deserve expansion, and correspondence from other users will be very welcome.

### THE TIME TABLE

We have had a wide response to our two previous articles on "The Menu" and "The Catalogue" respectively, and we continue this series of "pocket monographs" on special kinds of jobs with the assurance that this form of treatment, beginning with the layman user's reaction and working toward the technique of actual setting, will be of interest and possible value to many of our readers. The time-table is a "modern" job if ever there was one; its evolution deserves an article in itself.

### THE MIGHTY ATOM

The basic "unit" on which all measurements are based in "Monotype" machine composition measures .0007685". Mr. R. C. Elliott tells the interesting story of why this microscopic unit was chosen, and his article incidentally shows the facility, with "Monotype" machines, of accurate casting off.

### PUTTING A GOOD "FACE" ON IT

"The customer wants a fancy type, and he won't have Modern No. 2 or Modern No. 1 and Bold." In the past we have given some indication of the particular combination of advantages possessed by our chief text faces, and they show that no two faces serve exactly the same set of purposes. The general printer, however, does not need the wide repertory of a book house. Two good series in composition sizes may be enough for his needs. The reasons behind the choice of a good two are set forth in this Number, and some indication is given of a way of assuring that they really will suffice.

The Summer Number will be our annual Book Number, and will be of particular interest to the publishers and printers of children's books in general, and juvenile text books in particular. "Type choice" will be suitably illustrated.

### AN ADVENTUROUS LIFE AT THE KEYBOARD

A compositor who now comes to his "Monotype" keyboard for the first time is in the "second generation" from the pioneers to whom the machine was a brand new phenomenon. Mr. Dyke Smith, in an article which will arouse interest amongst craftsmen, points out how much more difficult instruction was in those days, but implies that an apprentice who takes the machine quite for granted nowadays is missing some of the thrill and adventure which can enliven a whole working career.

### APPLICATIONS FOR THE MONOTYPE RECORDER

We should like to remind our readers that in cases where a file of *The Monotype Recorder* is kept in the executive office for its "sales creating" reference material, the composing room should have its own copy. Applications from any F.O.C. on behalf of his chapel will be immediately answered with the despatch of a few recent back numbers and an assurance that the *Recorder* will in future be sent to the indicated composing room. Technical queries for publication in the *Recorder* are answered personally at once and in detail; the more generally interesting are chosen for our quarterly issue.

Extra copies for printers' branch offices are also obtainable on request. In default of special instruction as to addressing copies "attention of" individuals, *The Recorder* is addressed to the firm as such, but we frequently receive, and comply with, requests for an extra copy of each issue to be addressed to the chief, or some other, executive of the firm by name.

# ORGANIZATION and ECONOMY

OF PRODUCTION WITH "MONOTYPE" MACHINES

A Paper read at the Annual Meeting  
of the London & District M. U. A.  
January 23rd, 1917

RICHARD BATES

WHATEVER we say about scientific cost-finding in the composing room, no one can gainsay that it is a means rather than an end in itself. It is a means of arriving eventually at a selling price that will be a credit to the printer and which will do no injustice to the customer.

To reach this desideratum no amount of talking or costing will yield very much permanent good result unless a man thoroughly understands that part of his trade that "fate" has called him to. He must be a practical printer. Let me emphasize what I mean.

There is no one who will sense inefficiency quicker than the ordinary worker. Let a foreman or overseer be placed in these positions who does not thoroughly understand his job. Those under him will soon become disgruntled. I have known instances where men have handed in their notices. The worker will respect and gladly work for a man that is placed over him if the latter proves himself a good craftsman. He will, on the other hand, despise him for ignorance of the craft. Efficiency here means a thorough *practical knowledge* of his trade. To be practical it is not necessary that the man in charge should be able to sit down at the keyboard and "tap out" 14,000 ens per hour. He must, however, know thoroughly the capabilities of the machine, and the best methods by which the work can be produced.

So, too, with the Master Printer; those who would teach us must have accurate knowledge before they can begin to suggest to others what they shall charge for their work.

If we are to get the best out of our equipment we should carefully bear in mind the two words, *Organisation*, and *Economy*. Whilst there is an inter-relationship between the words

yet their meaning differs in a material sense. Here is what the dictionary says:

“Organise: To sing in parts, so to arrange the parts that the whole will act as one body.”

“Economy: The management of the concerns of a household especially in money matters; the law of a house.”

Then it follows that before you can have any money to economise with, you must so arrange your works that the various units in the works will act as one body. That is the job of us Master Printers. But this is not enough. We must see to it that the resultant labour of all the units shall eventually yield a sufficient profit to meet all the accounts, including wages. Further, profits must provide a reserve fund that is so necessary for expansion. In passing, let us bear in mind that it is easily possible to over-organise and over-economise.

#### PREPARING FOR AN INSTALLATION

You cannot just simply say, we will put in “Monotype” machines. The installation must be well arranged for, as you would prepare for a distinguished guest at your house. That the machine will be an economic proposition goes without saying in these days. So at this stage you need not be anxious as to whether your money is being well invested. The consideration at once will rest with the organising of its introduction. It should “slide” into your composing room with as little disturbance as possible. Do not rely upon your own ability for this. Consult The Monotype Corporation. Better still, see their Inspector who constantly visits your plant. He will know your local conditions as well, or perhaps better than you for the purposes of the machine. His advice might easily save you many a £10 note. It is also advantageous to have your plumber and electrician on the premises before the arrival of the machine, to take working instructions from the local inspector. In fact all this work can be done before the machines arrive. Afterwards it is only a matter of connecting up. Plan your first machines with the view of increasing the plant. We could double our plant and the present machines would not be stopped for a moment.

#### METAL: THE MODERN ATTITUDE

You will, of course, require metal, and plenty of it. It is easy to buy a ton of metal and drop it into the machine as handy ingots. Your trouble will come at the re-melting. I know printing offices where the cost of handling is far and away above that suggested by those who have written up the booklet *Finding the Cost of the Product of “Monotype” Machines*. It is not exactly their fault. It is because of statistics which are supplied from primitive methods. In a general sense you should only handle the metal twice. First to shoot it from the composing room to the foundry. Second to shovel it into the large melting pot. The re-melting should be so organised that the requirements of a normal week are dealt with at one time. That is to say your pot should be sufficiently large and your method of heating should bear some relationship to your plant. At our works we can handle about one ton per day.

Gas is now out of date for this purpose. It is not only expensive but it is not as efficient as electricity. You should have Funditors. Electrically you can keep your metal at a steady heat. You can melt it quicker and better. Better, in the respect that it is impossible for the operator to "burn" the metal either in the large melting pots or those on "Monotype" casters. The temperature to which the metal shall be heated can be fixed. Should the operator be forgetful no harm can come to the metal. Your costs, so far as depreciation is concerned, will be considerably lower, and you will be able to say to the writers of the booklet *Finding the Cost of the Product*: "Your figures are all wrong".

We have very little anxiety as to depreciation of metal. We never buy a pennyworth of reviving metal, as loss due to oxidation is reduced to a minimum.

COPY: A WORTH-WHILE POLICY

The next point of interest will be that of copy. We have no bad copy in our works. We have, therefore, no one who sub-edits copy, or makes it possible for the compositors to read it better. The editors do that. Hence we can easily delete several columns from the "Model Form" at the end of the booklet, published by our Federation. It is not an unusual thing for an Editor to say to me, when I pay my weekly visit: "Is our copy clear?" or "I have an article here, is it clear enough or shall I have it typed?" In other words we cultivate a reasonable disposition towards helpfulness on both sides and we never have much trouble or cause for complaint in this respect.

I am afraid that some Master Printers do not live "close up" to their customers. If they did, much time and money would be saved on both sides. This would beget a mutual confidence that would tend to eliminate a great amount of unnecessary estimating for work and the quibbling which some experience in regard to extras on the invoice. One of the saddest experiences in business life is when a typist finds it necessary to type her employer's name in caps because no one can read his signature to the letter. We charge for all author's corrections, and get paid for them.

If your copy consists of what we might call "jobbing" work then you should not experience much difficulty in handling it. If, however, you have half a dozen publications going through at the same time then you must see to it that the distribution of that copy is placed in channels

A photograph of the London and District M.U.A. Luncheon will be found in our centre Supplement.

that are the quickest and most economical. For example you should have printed instructions as to style. Such a thing as "allowing" for initials is very important. This is easy bodywise. Set-wise the keyboard operator should have a printed chart for each letter in the fount used. This sounds troublesome and elaborate. It is quite simple. When one considers that the contracts for these publications will run from three to five years it is an easy matter to save, every week, the amount of a man's wage. When the matter reaches the hand compositor he has only to take out the letters keyed for the initial and it will fit perfectly. Our compositors never have to resort to passing the lines through their sticks for the initial. We don't tolerate that sort of thing.

Don't forget your copy runners. What a world of organisation depend upon these little chaps.

"PLANNING" OUTPUT SPEED

The keyboard operator should be the best you can obtain. Not only for speed and knowledge of the machine, but most of all for accuracy. If he is "dirty", he has been badly trained; he had better begin all over again than try to work up speed and multiply errors. If he is taught by the

right method there is no reason why the average intelligent man should not reach a high degree of efficiency as operator. Where necessary he should clearly mark his spools so that the caster attendant can run his machine with the minimum of changes. Your system here should be very good. The caster attendant should know as much about the work that is going through as his foreman does.

Do not leave the ordering of the spool paper to "anyone", otherwise you will find the keyboard man waking up to the fact that you require more paper when he takes the last spool from the case. At The Monotype Corporation's depôts they find it necessary to keep a few spools of paper to meet the emergency of those who are negligent in this respect. We always have a spare case to the one they are using. The moment the latter is empty another one is put on order.

Allow the operators time for cleaning and overhauling their machines. In consequence the machines look better when you are showing your swell friends round and they certainly WORK better.

Now for the casting machine.

The keyboard is said to be an angel but the caster, in some works, has gathered around it the odium the composing room used to have. I wonder why this is? Perhaps it is because of a distinction in the class of labour employed. Who knows, this may be the last lingering kick of the early costing days. As I write I can hear the beautiful rhythm of four casters as they sing to me to the tune of ten thousand ens per hour. The Super Caster, too, plays its part in diapason style, putting in its "bumps" like the double bass fiddle in an orchestra.

You must see that the work is well planned, so that there will be the minimum of changes. Create a sound inter-relationship between the caster and keyboard that is likely to call forth the best out of each machine. The keyboard and caster should be in close proximity to each other. I strongly deprecate the idea of putting the keyboard "downstairs" away from the caster. This can cause much waste of time. If you want

your caster to run smoothly and efficiently there are several things which must be done with the regularity of clockwork, such as oiling, overhauling matrices, cleaning pump, etc.

To me it is surprising that anyone should have the slightest difficulty with regard to alignment. You should be able to set corrections for a job that was cast years ago and know that the alignment will be perfect.

The caster attendant looks after the compressor. Don't forget this little chap. Often he is hidden in a corner and oiled every time someone thinks about it, instead of every morning.

#### PROOF ROUTINE

Your caster attendant now hands his product to the compositor. It is a good plan to let one man handle the whole of this in so far as pulling first proofs. He should then hand the type to the clickers of the respective jobs. Your galley racks, both slip and 4to, should be numbered and lettered.

When the proofs are read and corrected, and revising is finished the proofs should be filed separately for the regular jobs. Miscellaneous jobs can have a file of their own. These are collected every day by a member of the office staff. They are measured up respectively and the number of thousand ens are recorded. Thus you have the number of thousand ens for every job, which are transferred to the cost sheet. You have an instant available record of how "clean", or otherwise, the matter has been set. You can see from your proofs what difficulties, if any, there are in the way of composition. Therefore you can justify your total product. You can see why the product is high or low in amount. In other words you have an intelligent reason for giving to the keyboard operator and caster attendant their full meed of praise or blame for their day's work. We keep a "graph" and every morning we know how many thousand ens have been set the previous day. Of course this is kept for a permanent comparative record.

For total ennage you should cast up the tabular matter as ordinary setting. When you are regarding the total ennage for the day you will then

have a better idea how the operators are handling tabular matter. Of course the matter is not charged as ordinary setting.

Records of output sometimes come from doubtful sources and circumstances. They carry no weight or value because they are given, in good faith of course, by men who are not in close enough touch with the machine. Personally, I think very little of other people's averages, whether they be high or low. I think a great deal about *my own* averages, because it is upon them that my costs are based. If Smith says he gets an average of 10,000 ens per hour, I say "good luck to him". If Brown says he only gets an average of 3,000 ens per hour then I should want to ask him a few questions about the work he does and the way he does it.

Here are a few figures from a job which was cost out just before I came away from Manchester:

Eighty-four pages. *Measures*: 36 ems, 37 ems and 41 ems pica. *Matter* in 6 pt., 8 pt. and 10 pt.

Seventy-three hours taken in keying and casting.

423,404 ens=5,800 per hour as ordinary matter.

Over 25% of matter was tabular. Much of it had 4 justifications. Many pages 8 and 10 justifications.

105,851 ens of Tabular Matter

26,462 ens charge 25% extra

555,717 ens=7,612 ens per hour.

Suppose you say this tabular matter is worth 50% extra; then you have:

423,404 ens

105,851 ens of Tabular Matter

52,925 ens charge 50% extra

582,180 ens=7,975 ens per hour.

Now then, the question arises; what would you charge the customer? This is a contract job and is worth well into four figures a year and *is profitable*.

I wonder how much help these figures will be to you. If you go home and say "Bates gets so many thousand ens per hour," you would be wrong. There are circumstances about this job known to ourselves. If you knew them—well, you would be as wise as I. My point is that averages outside your own works are not usually very helpful.

OBSOLETE "COSTS"

I think the figures on p. 26 of the booklet *Finding the Cost of the Product* are misleading. Under the sub-heading "Yearly Direct Departmental Expenses" you have:

Reviving Metal £5. This does not enter into our calculations.

Gas is placed at £18. On Manchester rates I get this to 1¼d. per hour. When we had gas it cost us a little less than £13 per caster. Now, with electricity it costs £6 12s. 6d. Depreciation of metal is put at £15 per caster. This is higher than I should put it. Messrs. Capper Pass, we are told on p. 19, put it at 2% for 12 pt. and 3% for 6 pt. But then I want to know on what method of melting they base their calculations. Is it by an up-to-date method in a printing office? Are the results those from their own foundry? I have many times examined the dross in printing works and been surprised at what has been sent to the foundry. We should certainly never allow such waste.

The last paragraph on p. 18 of the booklet does not apply at all so far as we are concerned. The method there described is primitive. If we are to have a booklet surely we are entitled to have one that is based upon the best methods of handling the product of "Monotype" machines. The printer who is content with anything less—let him look to it.

We have Funditors to each machine, and a large Funditor pot for general melting. You can have these fitted by The Monotype Corporation when you buy the machine. Also to your existing machines. Our "Monotype" metal pots are regulated by clockwork. The metal pots are timed to come on in the morning and are automatically shut off at 6 p.m. In the old days of gas a man came in one hour before commencing work to light the pots. This in itself was an appreciable cost which does not now obtain.

Apart from what I might call the general writing up of the booklet it is of no value to me. The conclusions arrived at are seemingly based upon un-economic figures. If these do not bear some relationship to an economical way of working a battery of "Monotype" machines, then I cannot accept them.

	7 49	8 5	10 6	10 16	12 30	3 30	4 50/4	4 15	5 0	5 10	8 25	8 25	10 5	10 50
3 51	7 49	8 5	10 6	10 16	1 40/1 55	4 33	4 47	4 23	4 23	5 10	8 25	8 25	10 5	10 50
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	7 58	8 16	10 22	10 27	1 46/2 1	4 33	4 53	4 51	4 51	5 36	8 25	8 25	10 12	11 0
...	8 6	8 24	10 35	10 35	1 51/2 6	...	4 58	...	...	5 43	8 25	8 25	10 39	11 33
...	8 13	8 31	10 42	10 42	1 59/2 14	...	5 6	...	...	5 49	8 25	8 25	10 45	11 25
...	6 38	...	9 42	...	2 6/2 21	...	5 14	...	...	5 55	8 25	8 25	10 58	11 41/19
4 11	8 21	8 39	10 26	10 50	1 37	2 0	5 22	4 10	4 10	5 25	8 25	8 25	11 13	11 40
4 16	8 33	9 31	10 30	11 25	2 20	2 57	6SX25 6hh6	5 13	5 43	6 30/8 57/9 10	8 25	8 25	11 43	...
4 42	8 58	9 45	10 55	12 5	3 4	3 22	6SX50 6hh55	5 50	5 50	6 37/9 49/17	8 25	8 25	11 49	...
...	9 4	10 24	11 22	...	3 17	...	6tt46 6S046	5 50	5 50	6 40/9/14/9 20	8 25	8 25	11 52	...
6nn53	10 15	11 25	12 47	1nn30	4 45	4 55	75X46 7 46	5m34	5m34	6 48/9 22/9 28	8 25	8 25	12 14	...
...	9 47	11 42	12 44	...	4 16	4 16	...	5 43	5 43	7 2/2/9 42	8 25	8 25	12 21	...
...	10 46	12 44	...	...	4 16	4 16	...	5 55	5 55	7 10/9 41/9 49	8 25	8 25	12 29	...
5 5	9 16	10 13	12 30	...	3 37	3 37	75X 77hh27	6 6	6 16	7 16/9 48/9 56	8 25	8 25	12 36	...
5 49	9 58	10 53	1 2	...	4 42/3 5	4 42	75X54	6 6	6 24	7 23/0e/10e9	8 25	8 25	12RR43	...
6JW24	9 69	11 30	12F29	1 33	4 34	4 34	75X48 7V48	6 6	6 33	7 44	8 25	8 25	12RR52	...
5 14	9 20	10 17	11 15	12 34	3 42	3 42	75X10 7hh31	6 26	6 42	7 51	8 25	8 25	IRR 2	...
6XX23	10PP41	11XX22	10Q45	1XX46	4p28	4p28	75X57	6 26	6 42	7 51	8 25	8 25	IRR 9	...
5 15	...	10 0	12 27	...	3 36	3 36	...	8 22	8 22	7 24	8 25	8 25	IRR 16	...

**FF**—Saturdays only. Commences 30th June.  
**FSO**—Fridays and Saturdays only.  
**G**—Saturdays excepted; also runs on Saturdays, commencing 19th May, arriving Halifax 10.34 a.m., via Leeds (Central).  
**GG**—Calls at Dukeries Junction on Fridays only and on other days when required to set down.  
**H**—On Mondays arrives Hull 8.48 a.m.  
**HH**—Commencing 1st June arrives Cratford 12.19 p.m.  
**J**—Sundays only. Commencing 1st June also runs on Fridays.  
**K**—Conveys passengers for stations beyond Edinburgh only.  
**KK**—Saturdays only. Commences 18th June.  
**L**—Sunday mornings excepted.  
**LL**—Not on Saturdays 16th, 23rd and 30th June, and 7th July.  
**M**—Commences 20th May (27th May excepted).  
**MM**—Fridays and Saturdays only. Commences 1st June.  
**MO**—Mondays only.  
**N**—Saturdays only. Commences 23rd June.

**sh**—Wednesdays and Saturdays only. On Wednesdays leaves Hunstanton 11.55 a.m.  
**sl**—On Saturdays commencing 23rd June leaves Vauxhall (Vauxhall) 2.25 and Lowestoft (Central) 2.15 p.m.  
**sk**—Saturdays excepted. Change at Welwyn North.  
**sn**—Until 31st May inclusive arrives Glasgow 9.35 a.m.  
**sp**—On Saturdays leaves Hunstanton 6.23 p.m.  
**sq**—On Sundays arrives Manchester (London Road) 3.29 and Liverpool 4.47 a.m.  
**sr**—Sundays excepted. Commences 1st June.  
**ss**—Sundays excepted. On Saturdays arrives 3.20 p.m. Commencing 1st June arrives 11.30 a.m. every weekday. On Sundays commencing 13th May arrives 1.15 p.m. and commencing 3rd June arrives 12.5 p.m.  
**su**—p.m. Sundays excepted; commencing 2nd July arrives Inverness 2.54 p.m.  
**sv**—On Sundays commencing 1st July arrives Inverness 2.54 p.m.  
**sw**—Until 31st May inclusive arrives 9.35 a.m. each weekday. On Saturdays arrives Glasgow (Queen Street) 11.58 a.m.  
**aw**—Sundays and Saturdays excepted. Commencing 1st June arrives Rothesay 12.50 p.m. every weekday (3.55 p.m. on Sundays).  
**ax**—On Saturdays leaves Wisbech 3.6 p.m.

**vw**—On Sunday mornings arrives Leeds (New Station) 4.45 a.m. via York.  
**w**—On Tuesdays leaves Dereham 4.57 and on Thursdays and Saturdays 4.47 p.m.  
**yy**—On Saturdays arrives Hull 10.35 p.m.  
**zz**—Arrives Bridleswade 11.58 a.m.  
**xx**—Via Holbeck. Saturdays excepted.  
**t**—On Saturdays leaves March 12.18 p.m. and arrives Peterborough (East) 12.40 p.m. Passengers find their own way to Peterborough (North).  
**u**—On Wednesdays and Saturdays leaves Nottingham (Victoria) 11.0 p.m.  
**tt**—On Sundays arrives Inverness 1.55 p.m. Commencing 29th June arrives Inverness 3.35 p.m. weekdays.  
**+**—Commencing 1st June arrives Rothesay 10.5 a.m.  
**+**—Saturdays only. Commences 9th June. Changes at Bottosford.  
**+**—On Saturdays arrives Cambridge 1.32 p.m.  
**+**—Until 31st May inclusive leaves Colchester 4.23 p.m.  
**+**—Arrives Arley 9.7 p.m.  
**+**—On 6th May leaves Harwich Town 9.2 and Harwich (Parkston Quay) 9.12 a.m. Commencing 3rd June leaves Harwich Town 11.18 Harwich (Parkston Quay) 11.25 a.m. and Colchester 11.39 a.m.

The columns of this demonstration setting, which is keyboard set to a measure of 60 ems pica, were reproduced in type facsimile from portions of a wall time-table set and printed for the London & North Eastern Railway, in order to give some slight idea of the typographic differentiation required for many forms of the modern time-table. In the original there are nine panels of reference, from which we have taken three at random. The station names column runs down the middle of the table, which is 52 ins. wide over all. Time-table typographers will find some interesting solutions of problems in this specimen setting.

# THE MODERN TIME-TABLE

AS SEEN BY

THE TRAVELLER—THE COMPILER—THE MASTER PRINTER—THE COMPOSITOR

A time-table is a set of specific promises in regard to the times at which given vehicles will be at given places. As a piece of printing, it is genuinely and entirely modern. The very notion of arriving at a distant town at a precalculated hour *and* minute is a notion which never entered the human mind before the nineteenth century. As a job it is modern, again, in being absolutely "functionalist" in style. The normal book can afford a number of airs and graces; whatever goes into a time-table goes in because it could not possibly be left out. Hence to the modern designer this particular problem has a strict "contemporary" realism which is most attractive.

New as it is, the printed time-table has formed its own conventions. Luckily they are conventions based on the actual behaviour of the eye; for any innovation must win on its own merits against the opposition of the Familiar Thing (an aid to quick reference) and the Standing Forme. If, however, this kind of printed job were completely stylized, if no innovation were now possible, there would be no reason for including this article in our series on "Twentieth Century Problems in Print". For this series (if we may judge from letters received) is chiefly helpful in that it disregards the insulating walls between "layout studio", "composing room" and "front office", and assumes that everyone concerned with the making of a given kind of job is *ipso facto* interested (a) in its ultimate use, and (b) in its entire production. And if there is no question about its use, and no two ways about its production, then there is no need for a common ground for argument. The time-table *does* still happen to be undergoing changes. Some of the examples shown on these pages have historical interest; all have departed in at least one respect from tradition, and though there is reason to call many of them "standard style", one must add to the phrase "—for this kind of table, in future if not always now".

## THE READER'S REQUIREMENTS

The "ultimate consumer", the reader, is always the first and last authority on typography, but in this case he is a positive nuisance! Every square inch of the job has to be laid out with strict reference to what a tired traveller will do on a station platform, under an arc-light, with a porter waiting for his luggage, and a large

BELOW: An "Air Bradshaw" is certainly a very modern phenomenon, and this page, from No. 4 of Bradshaw's International Air Guide, printed by Messrs. Henry Blacklock & Co., Ltd. in "Monotype" Gill Sans 275, 262 and 362 (extra light) epitomises the many changes in twentieth-century time-table typography.

Fig. 2

60 (London)—PARIS—VIENNA—CENTRAL EUROPE—ISTANBUL (Weekdays only unless otherwise stated—Not on January 1st) 'Fleche d'Orient'—AIR FRANCE Route 471									
Miles	0	Airports of London (Table 30) ... dep	13r30	...	...	Airports of	M	...	...
205	PARIS	... dep	7 15	...	...	ISTANBUL	...	...	...
455	STRASBOURG	... dep	9 30	...	...	BUCHAREST	... dep	9 45	...
617	NÜRNBERG	... dep	12 10	...	...	BELGRADE	... dep	11 45	...
786	PRAGUE	... dep	12 20	...	...	Sofia	... dep	...	...
786	PRAGUE	... dep	13 55	T	...	Belgrade	... dep	...	...
1115	WARSAW	... dep	13 45	...	...	BELGRADE	... dep	11 55	...
786	PRAGUE	... dep	14 5	...	...	BUDAPEST	... dep	14 0	...
959	VIENNA	... dep	15 45	...	...	...	... dep	14 10	...
1100	BUDAPEST	... dep	...	...	...	VIENNA	... dep	15 35	...
1304	BELGRADE	... dep	...	...	...	PRAGUE	... dep	...	8 15
1304	BELGRADE	... dep	...	...	...	...	... dep	...	M 9 55
1510	SOFIA	... dep	...	...	...	Warsaw	... dep	...	6 20
1304	BELGRADE	... dep	...	...	...	Prague	... dep	...	9 50
1598	BUCHAREST	... dep	...	...	...	PRAGUE	... dep	...	10 10
1919	ISTANBUL	... dep	...	...	...	NÜRNBERG	... dep	...	11 45
		London (Table 30) ... arr	...	...	...	STRASBOURG	... dep	...	11 55
						PARIS	... dep	...	12 25
						...	... dep	...	12 35
						...	... dep	...	14 55
						...	... dep	...	12   0

M On Mon., Wed., & Fri. r Daily T On Tues., Thurs., & Sat. † Arrive 15 0 on Sundays

TOWN	AIRPORT	TOWN TERMINUS	Miles	Minutes
LONDON	Croydon	Horsferry House—facing Lambeth Bridge	12	45
PARIS	Le Bourget	Air France, Place Lafayette	62	35
STRASBOURG	Polygone	Grand Hotel Maison Rouge, Place Kléber	54	25
NÜRNBERG	Nürnberg	Grand Hotel and Württemburger Hof	23	40
PRAGUE	Kbely	6 Narodni Trida	10½	45
WARSAW	Okecko	'Lot' Al. Jerozolimska 35	5	50
VIENNA	Aspern	Kärntnerring 7	94	45
BUDAPEST	Matyasfold	Vorosmarty Ter 2	64	40
BELGRADE	Beograd (Zemun)	36 Rue Kralja Petra I	91	45†
SOFA	Bojourichte	5 Bd Dondoukoff	91	35
BUCHAREST	Banassa	2 Rue Clémenceau	24	50
ISTANBUL	Yechil Keuy	Hotel Pera Palace	11½	70

† Motorboat from Belgrade to Zemun, thence Car to Airport

FROM LONDON	FARES					
	Single	Weekend	Return 15 Days	Return 60 Days	Excess Baggage per Kg (2.2 lbs)	
To STRASBOURG	£ s. d. 8 6 0	£ s. d. ...	£ s. d. ...	£ s. d. 14 2 0	s. d. 1	d. 4†
NÜRNBERG	11 13 0	...	...	19 16 0	2	0†
PRAGUE	15 3 0	23 8 0	24 5 0	25 15 0	2	7†
WARSAW	17 12 0	...	...	28 18 0	2	10†
VIENNA	16 8 0	25 8 0	26 5 0	27 17 6	2	10†
BUDAPEST	18 0 0	27 19 0	28 16 0	30 12 0	2	5†
BELGRADE	24 8 0	...	...	41 10 0	...	...
SOFA	...	...	...	50 8 0	...	...
BUCHAREST	29 13 0	...	...	...	...	...
ISTANBUL	...	...	...	...	...	...

† After first 15 Kgs, half above rate is charged  
‡ Extended to Thursday Evening January 3rd.

(6) Return tickets are available for use on the return journey any day within the period of their validity.

(7) Children. Children under three years of age and accompanied by an adult will be charged 50 per cent. "two-thirds" of the fare. These between three and seven years of age are charged at half the standard fare. The free baggage allowance of 15 lbs. is available for children over three years, but there is no free allowance for children under that age.

(8) Fare applicable to any journey is that which is published in the currency of the country of embarkation, after conversion, if necessary, to the currency of the country of purchase.

**TRANSPORT BETWEEN THE CITY AND THE AIR PORT**

(9) **Passenger Cars.** Transport from the station of departure to the Air Port and vice versa is provided without extra charge.

(10) **Departure.** Passengers must be at the Air Port, or at the departure station from which the car for the Air Port leaves, subsequently to the acceptance of the ticket, at the time of departure for baggage and ticket formalities to be completed before that time. The departure of the passenger car from the station, or to the Air Port, is the time. The departure of the passenger car from the station, or to the Air Port, cannot be delayed for passengers who arrive late. No guarantee can be given that passengers will be carried on a service if their arrival at the Air Port leaves insufficient time to complete loading formalities for a particular departure of the service.

**BAGGAGE INFORMATION**

(11) **Baggage.** Without kilograms (33 lb.) of baggage are carried free of charge for each passenger when travelling on the services mentioned in this timetable. A concession is made for parties travelling together, whereby the allowance for the baggage may be "on load." Excess baggage can accompany passengers (subject to the permissible load of the air-liner not being exceeded), but every kilogramme (2.2 lb.) in excess of this weight is charged for at the rates shown *overleaf*, and on *one-way baggage* can be *sent in advance at above rates*. Passengers' baggage must contain personal effects only. By Customs regulations all merchandise must be declared separately as freight, and entered on the aircraft manifest.

(12) **Registration of Baggage.** Passengers' baggage is registered and weighed before they are enabled to carry with them, either as their personal baggage or in the saloon of the air-liner, any dog, cat, bird or any other animal, and all animals must be transported as freight baggage.

**GENERAL INFORMATION**

(13) **Passports.** Passengers are reminded that passports should be carried on the person. Imperial Airways or its agents will be pleased to obtain passports or visas on request provided that reasonable notice be given. *British and French subjects do not require passports for week-end trips between London and Paris.*

(14) **Meals.** On the London-Paris services the air-liners are provided with a fully equipped restaurant, from which stewards serve breakfast, lunch, tea, dinner, or light refreshments as desired. There is also a bar supplying a full range of wines, spirits and other beverages.

On other European services refreshment baskets can be provided if ordered at the time of booking.

(15) **Hotels.** The names of personally inspected and recommended hotels in Great Britain and in all countries served by Imperial Airways are available at each of the Company's offices for the information of passengers. Imperial Airways will arrange hotel reservations if desired.

£4 15 0 | £8 1 6 | £7 12 0 | 6d.

**PARIS—LONDON**

Operated with the *Hercules* or the *Sigala* class of air-liner

**I NOVEMBER 1934 to 31 MARCH 1935 INCLUSIVE**

**DAILY UNLESS OTHERWISE STATED**

	B	
PARIS, Airway Terminus ...	dep.	11.45
PARIS, Air Port ...	dep.	18.30
LONDON, Air Port ...	arr.	14.45
LONDON, Airway Terminus ...	arr.	21.30

*Service B: Savings accepted*

*Subur Wing Service*

**FARES**

Return Fare (60 day)	Return Fare (15 day)	Rate per Kg. (2.2 lb.) for Excess Baggage
405 francs	650 francs	2.50 francs

**SPECIAL WEEK-END FARE - 540 francs**

Available by any Service from Paris on Fridays and Saturdays, returning from London on Mondays and Tuesdays

BRUSSELS ... £4 0 0 | 26 16 0 | 46 8 0 | 9d.  
COLOGNE ... £5 10 0 | 29 7 0 | 49 16 0 | 1s. 1d.  
ANTWERP ... £4 0 0 | 26 16 0 | 46 8 0 | 9d.

**COLOGNE—BRUSSELS—LONDON**

OPERATED BY IMPERIAL AIRWAYS (I.A.L.) IN CONJUNCTION WITH THE BELGIAN AIR LINES (S.A.B.E.N.A.) for which Company Imperial Airways acts as the General Agent in Great Britain

**I NOVEMBER 1934 to 30 MARCH 1935 INCLUSIVE**

WEEKDAYS ONLY

	S.A.B.E.N.A.	B.
COLOGNE, Dam Hotel ...	dep.	14.20
COLOGNE, Air Port ...	dep.	14.50
BRUSSELS, Air Port ...	arr.	15.05
BRUSSELS, Air Port ...	arr.	09.20
LONDON, Air Port ...	arr.	15.20
LONDON, Airway Terminus ...	arr.	17.30
LONDON, Airway Terminus ...	arr.	18.15

Service B is operated on Mondays, Wednesdays and Fridays by S.A.B.E.N.A. and on Tuesdays, Thursdays, and Saturdays by Imperial Airways with the *Sigala* or the *Hercules* class of air-liner

**ANTWERP—BRUSSELS**

OPERATED BY THE BELGIAN AIR LINES (S.A.B.E.N.A.) to connect with the above services

WEEKDAYS ONLY

	S.A.B.E.N.A. Office, Central Railway Station	dep.
ANTWERP, Air Port ...	dep.	08.15
BRUSSELS, Air Port ...	arr.	08.45
BRUSSELS, Air Port ...	arr.	09.25

**FARES**

To LONDON from:	Single Fare	Return Fare (60 days)	Return Fare (15 days)	Rate per Kg. (2.2 lb.) for Excess Baggage
BRUSSELS ...	480 francs	816 francs	768 francs	4.80 francs
COLOGNE ...	75 R.M.	127.50 R.M.	120 R.M.	75 R.M.
ANTWERP ...	480 francs	816 francs	768 francs	4.80 francs

**DEPARTURE AND ARRIVAL STATIONS**

The scheduled number of minutes spent in transit between the stations and the Air Ports is given in brackets ( )

BRUSSELS—Bureau de S.A.B.E.N.A., 32-34 Boulevard Adolphe Max (45)

**RAIL SERVICES—continued**

**Scarborough, Whitby, Saltburn, Redcar and Middlesbrough**

TABLE No. 141, 169

WEEKDAYS

Sgls. s. d.	Day Ret.	dep.	X		X		X		X	
			0 18	8 36	10 20	11 15	12 26	12 10	12 26	12 31
7 15	1 3	dep.	9 24	8 41	10 37	11 33	12 10	12 26	12 31	12 31
2 0	1 4	dep.	9 50	8 55	10 54	11 51	12 26	12 48	12 53	12 53
2 0	2 0	arr.	9 24	9 24	11 7	11 7	12 22	12 48	12 53	12 53
2 0	3 6	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
2 0	3 6	dep.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
3 0	3 6	dep.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
3 0	3 10	dep.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
4 0	4 0	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
5 3	7 0	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
5 5	7 3	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
5 9	5 9	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
6 4	6 4	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
6 4	6 4	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
7 3	9 9	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53

ABOVE: BOTTOM HALF of a Gold Imperial Airways European timetable folder. Earlier examples were set in Basterville throughout. Type facsimile of spread; but original is 9 int. deep.

RIGHT: TOP HALF of an historic piece: "Road" and "Rail" services, no longer in rivalry, appeared on facing pages of L.N.E.R.'s *New Ways for British Holidays*. A bus symbol now appears on many L.N.E.R. tables, showing evidence of the new era of INTERLINKED TRANSPORT.

Fig. 4

**ROAD SERVICES**

For the full services see the Omnibus Companies' Timetables which can be consulted at the principal L.N.E.R. Stations.

**Scarborough—Filey—Bridlington**

SERVICE No. 11—UNITED AUTOMOBILE SERVICES, LTD.

WEEKDAYS AND SUNDAYS—July 15th-31st and September 1st-10th, Inclusive

Sgls. s. d.	Day Ret.	dep.	X		X		X		X	
			0 18	8 36	10 20	11 15	12 26	12 10	12 26	12 31
7 15	1 3	dep.	9 24	8 41	10 37	11 33	12 10	12 26	12 31	12 31
2 0	1 4	dep.	9 50	8 55	10 54	11 51	12 26	12 48	12 53	12 53
2 0	2 0	arr.	9 24	9 24	11 7	11 7	12 22	12 48	12 53	12 53
2 0	3 6	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
2 0	3 6	dep.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
3 0	3 6	dep.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
3 0	3 10	dep.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
4 0	4 0	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
5 3	7 0	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
5 5	7 3	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
5 9	5 9	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
6 4	6 4	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
6 4	6 4	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53
7 3	9 9	arr.	9 24	9 24	11 21	11 21	12 12	12 48	12 53	12 53

Scarborough (Valley Bridge) ... dep. 9 55 10 51 10 59 11 55 11 55 12 5 12 20 12 55  
 Filey ... dep. 10 25 10 30 10 30 11 25 11 30 11 30 11 55 12 20 12 30 12 55  
 Bridlington (Promenade) ... arr. 11 10 11 51 11 40 12 10 12 12 12 40 1 5 1 5 1 45 2 10

contract waiting if he can connect with the through train to Birmingham, and nobody to inquire of. If that striking situation is vividly in the mind of every single person connected with time-table making, the rest is easy. A tap of the wrong key and a misplaced proof-correction on a crowded mass of five-point could mean a life-long grudge against a railway system, volubly rehearsed to many a fellow-traveller. That is easy enough to see and guard against. It is not quite so easy for a man with the technician's mind to see another danger, and one which does get past the proof-reader: the danger of undermining confidence by the use of worn or ill-matched or feeble-looking type, when the page can be contrasted with a far more effective one. Suppose that our same traveller had enquired about his through train of someone who replied "Well, er, it's . . . it's on Platform Three". That may be quite correct, but the hesitancy is horribly disconcerting. There is nothing far-fetched or "artistic" in saying that the *look of print*, like the *tone of voice*, is able to reassure and to "ring true". The analogy is quite valid,

save that observations by the ear are always conscious observations, whereas the eye can and does send an adverse report straight to the subconscious mind.

What else, beside accuracy and "the convincing look", does the reader demand? Above all he wants to find his way about in the book. If he has taken the trouble to learn how to decipher a time-table, he will become peevish if one alters the rules. And if he knows no rules, one will have to make the table as nearly self-explanatory, typographically, as can be done. In other words, after accuracy and readability comes style or logical consistency. The reader presents those three requirements to the compiler, who passes on his specific interpretations of them to the master printer.

THE COMPILER'S REQUIREMENTS

Until recently there was some point to the humorous remark that "a time-table is never printed, it is only re-printed". A three- or five-year contract (for two or three revised editions annually) means that any drastic re-setting must await the new contract. And even then there will be "perfectly good" formes to think about; for time-tables are set on "Monotype" machines in rough separate type. That is one reason why the old-fashioned time-table was a typographic hodge-podge, even after its style (e.g., use of bold, of rules, etc.) had been very efficiently formulated, and its actual composition had been mechanized with extraordinary ingenuity. Piece-meal re-setting, over nearly a century of expanding train-services, had left a rag-bag of grots, decent but timid Scotch romans, fat-faces etc., all doing their work of *distinguishing different kinds of information*, but doing it a little *too* well. To use a bold, normal and light weight of the same face, in the modern manner, is like using red, blue and white labels; to mix unrelated types is like using a red label, a green button, and a box on the ears, to get the maximum distinction. It would work, but it would not be pleasant.

So the primary occasion for complete re-setting was not so much the desire to use handsomer, or even more suitable, faces; it was the need to "inflect" weight without any jarring inconsistencies. Now it happens that when you want to make a bold weight of a face with serifs, you must either over-thicken the serifs or keep them thin and thereby alter the basic design; either thicken the hair-lines needlessly, or again alter the design. An unstressed sans-serif character or numeral, however, lends itself perfectly to any variation of weight. The numerals of the fount are, of course, all-important in time-table work, and most numerals are naturally cut without serifs. Even the characters in the station-column and notes are not meant for long-continued reading, so they do not require the slight linking and directive influence of the serif.

Train Services—continued. 35

Retford—continued.			
Sundays			
King's X.	Ret'd.	Ret'd.	King's X.
a.m.	p.m.	a.m.	a.m.
8 30G	1 41	12 29	3 50
10 15cB	1 21		p.m.
11 15r	2 25	12 31r	3 45
		2 39	5 55
4 55r	7 54	7 6r	10 12
8 25	11 42	7 35cB	10 48
	a.m.	night	a.m.
10 45a	1 51	12 5	3 56

RICHMOND (Yorks)			
Weekdays			
King's X.	Richmond.	Richmond.	King's X.
a.m.	a.m.	a.m.	p.m.
1 5sq	7 18	7 50	1 24r
		9 20	3 0p
4 45	12 10	10 50	4 15r
10 0r	3 25		p.m.
11 20p	5 25	12 20	5 40r
		2 3	7 15p
		2 3	9 25r
1 20r	6 33		9 55r
1 40r	7 51	4 0	
5 30r	10 40		a.m.
	a.m.	7 58	3 15
10 45szo	9 0	10 55	5 55zo

Sundays			
King's X.	Richmond.	Richmond.	King's X.
a.m.	p.m.	a.m.	p.m.
11 15r	5 35	7 35	3 45r
		10 15	5 0r
12 30r	8 55		p.m.
6 0r	11 18	12 45	8 5r
			a.m.
		6 30	3 56
		11 23	5 55zo

NOTES

- d Tea and biscuits obtainable on train.
- e Through carriage.
- f Not on 23rd, 25th December and 19th April.
- g Buffet Car between Edinburgh and Newcastle.
- h Not after 15th October.
- i Commences 15th October.
- j Restaurant Car Newcastle to Edinburgh.
- k Restaurant Car between York and Edinburgh.
- l Change at Grantham.
- m Restaurant Car between Perth and Fitzroy.
- n Restaurant Car King's Cross to York.
- o Mondays only. p Mondays excepted.
- q Pullman Cars only. r Supplementary charges.
- s First and Third Class sleeping accommodation King's Cross to Edinburgh. (Berths will be available for use after 11.30 p.m.)
- t Restaurant Car whole or part of journey.
- u Saturdays only.
- v First and Third Class sleeping accommodation from Edinburgh.
- w First and Third Class sleeping accommodation between King's Cross and Aberdeen.
- x Restaurant Car between Edinburgh and Aberdeen.
- y Saturdays excepted.
- z Restaurant Car between Aberdeen and King's Cross.
- 1 First and Third Class sleeping accommodation.
- A Restaurant Car between King's Cross and Edinburgh.
- K Buffet Car whole or part of journey.
- C First and Third Class sleeping accommodation between King's Cross and Perth.
- D First and Third Class sleeping accommodation between King's Cross and Dundee.
- E Not on 25th December, 19th and 21st April.
- F Via Leeds (Central) and (New.)
- G Runs on 23rd, 25th December and 19th April only.
- H Via Thirsk.
- J Restaurant Car between Edinburgh and Perth.
- T Tuesdays and Wednesdays only.
- U Restaurant Car from Edinburgh.
- V Via York.

1S First Class Single Fare.	1R First Class Return Fare.	1T First Class Tourist Fare.
3S Third Class Single Fare.	3R Third Class Return Fare.	3T Third Class Tourist Fare.
1H First Class Summer Ticket.	3H Third Class Summer Ticket.	

Tourist Tickets are issued from London from 1st May to 31st October.

LEFT: The "A B C" type of time-table is a tabular job. This I.N.F.R. example shows the brilliant clarity of 5 point Gill notes, which refer to indications on this and on a facing page. Fig. 5





of the future, as well as the Bradshaw of to-day, will swarm with symbols, and will employ a whole alphabet of reference-sorts as a matter of course, to indicate a linkage of transport of which we do not yet dream. A more immediately practical point is that reference characters, with two rarely used exceptions, must be on *en* bodies (as must single numerals), to facilitate making up the measure without relegating all reference marks to the top of the column.

So far we have spoken of the compiler as one who asks for a re-setting, because that is when his all-important decisions are taken. Otherwise he merely asks for specific revisions. He has cannily left a few reserve columns, so that the extra summer trains can be accommodated. He is generally loath to mark his corrections on layout graph-forms, and he cannot cover the page with lines leading to *marginal* corrections, so he uses special pulls (on one side of the sheet, and not too heavily inked) for writing his revisions over the old entry. Then the job goes to the printer—or, if a new contract is to be given, the master printer goes to the job!

THE MASTER PRINTER'S REQUIREMENTS

Just as the compiler keeps demanding "reactions" from the ultimate user and special services from the master printer, so the latter requires specific advice from the customer, and interprets and implements it for the craftsman. For the master printer, as such, is primarily the man who finds the wages and the jobs, and puts into the wage-envelopes, into the plant, and if possible into his pocket, that money which could easily be thrown away in time-wasting, obsolete methods. Yet actually the master printer who deals with time-tables at all is likely to be "creatively" interested in them, and very willing to go into their technicalities with the keenness of a craftsman. Our own experimental printing-office, where modern time-table style and method have been worked out over fifteen years of intensive research, has been visited by many a master printer, and many an argument has raged over the innumerable trial proofs we have had to prepare.

So it would be officious for us to do more here than explain to the *other* "people concerned" with the time-table what the responsibilities of the master printer are; and even these have been already indicated. The days of the hand-set table are gone, and the choice of composing method has been definitely settled. That is not a propagandist remark; there are a dozen physical reasons why a time-table job, to-day, is a job set on "Monotype" machines. Few printers who are interested in this special subject remain unaware that expert advice and careful trial settings are theirs for the asking at Fetter Lane. What can be said here is that the "L8" series is still "news" to a few, and that it deserves the most serious consideration. It should also be noted that a.m. and p.m. and stop are logotypes and cut on one matrix in "L8" 5 and 6 point, as shown in the specimen on p. 13.

THE COPY GOES TO THE KEYBOARD

For a job which asks so much of the reader, and so much basic thought of the compiler, the normal book time-table turns out to be a simple setting on the keyboard. Its station column is probably repeated on page after page, so it is set separately in many cases, and the ribbon run through the caster as often as that column is required. The all-over measure of the numeral columns is known, as well as the allowance for rule; the job resolves itself into straightforward tapping of numerals, with intense concentration upon accuracy, across a measure which may be very wide (up to 60 ems pica, or to 120 ems if the DD keyboard is used). Tabular instruction regarding the station column and the more complicated problem of the "A B C" type of book will be found in our text-books for operators.

Big transport companies are not the only users of time-tables. Hostesses in country houses, manufacturers with country factories, and many others have need for miniature time-tables of "the best trains", which save a great deal of time and possible misreading. Could there be a more convenient "envelope filler"?

WEEKDAYS									
		D		S O		N			
		a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	p.m.	p.m.
Liverpool Street	... dep.	9 25	10 5	3 27	4 35	9 34	10 25	11 5	11 25
Norwich (Thorpe)	... arr.	1 23	1 31	7 27	8 2	1 42	2 5	3 48	4 25
Wroxham	... ..	2A36	.....	.....	.....	.....	.....	10 12	11 4
North Walsham	... ..	2A52	.....	.....	.....	.....	.....	.....	.....
Mundesley-on-Sea	... ..	.....	.....	.....	.....	.....	.....	.....	.....
Overstrand	... ..	.....	.....	.....	.....	.....	.....	.....	.....
Cromer	... ..	3 40	.....	10 23	.....	.....	.....	.....	.....
		S O		B		C		SE	
		a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
Cromer	... dep.	.....	11 2	5 40	.....	.....	.....	8 18	.....
Overstrand	... ..	.....	.....	.....	.....	.....	.....	.....	.....
Mundesley-on-Sea	... ..	.....	.....	.....	.....	.....	.....	.....	.....
North Walsham	... ..	.....	11 18	5 23	5 28	.....	.....	8 35	9 10
Wroxham	... ..	.....	11 33	6 9	5 47	.....	.....	8 51	.....
Norwich (Thorpe)	... ..	.....	7 40	2 40	6 30	6 20	6 50	10 30	11 35
Liverpool Street	... arr.	11 23	6 30	9 10	9 42	9 50	2 42	3 40	3 53

Fig. 9: This combination (Extended Matrix Case Arrangement No. 2407) serves for attractive "miniature" time-tables in the modern style.

ABCDEFGHIJKLMN O P Q R S T U V W X Y Z &  
 abcdefghijklmnopqrstuvwxyze

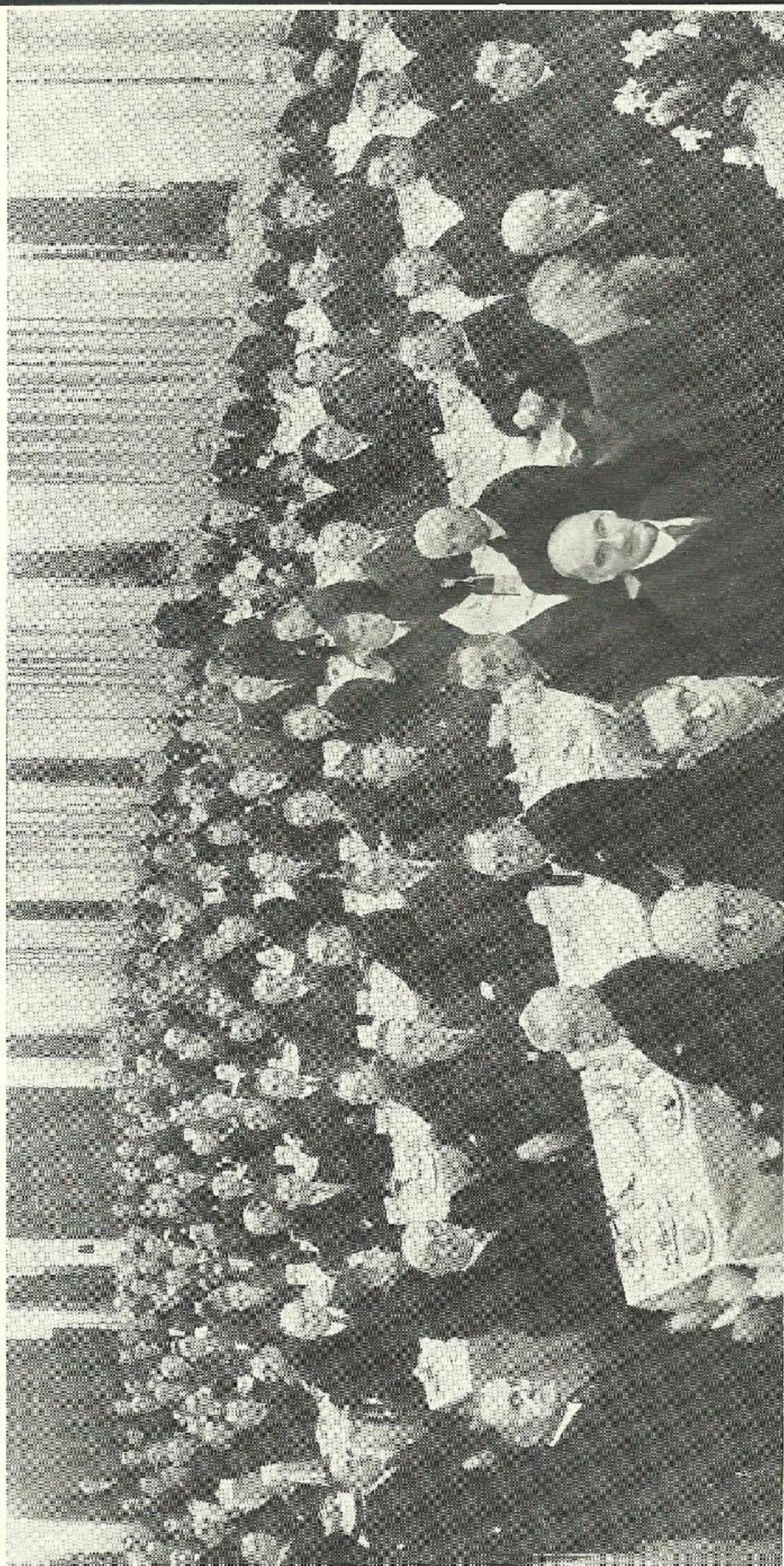
##### :;'"04|\*|18- - - - | | | | ..... em pm a m p.  
 1234567890 1 2 3 4 5 101112 114 1234567890

##### :;'"04|\*|18- - - - | | | | ..... em pm a m p.  
 1234567890 1 2 3 4 5 101112 114 1234567890

ABCDEFGHIJKLMN O P Q R S T U V W X Y Z &  
 abcdefghijklmnopqrstuvwxyze

##### 1234567890 1 2 3 4 5 101112 114 :;'"04|\*|18- - - -  
 ABCDEFGHIJKLMN O P R S T E O S E O S





Prominent users of "Monotype" machines will be recognized in this photograph taken at the luncheon given by The Monotype Corporation Limited to the London & District Monotype

Users' Association before the Annual General Meeting of that organization. At the top table (standing, as host at the luncheon party), is Mr. W. T. Birch, Managing

Director of The Monotype Corporation Limited; on his right is Mr. G. P. Revets, Chairman of the Association, and on his

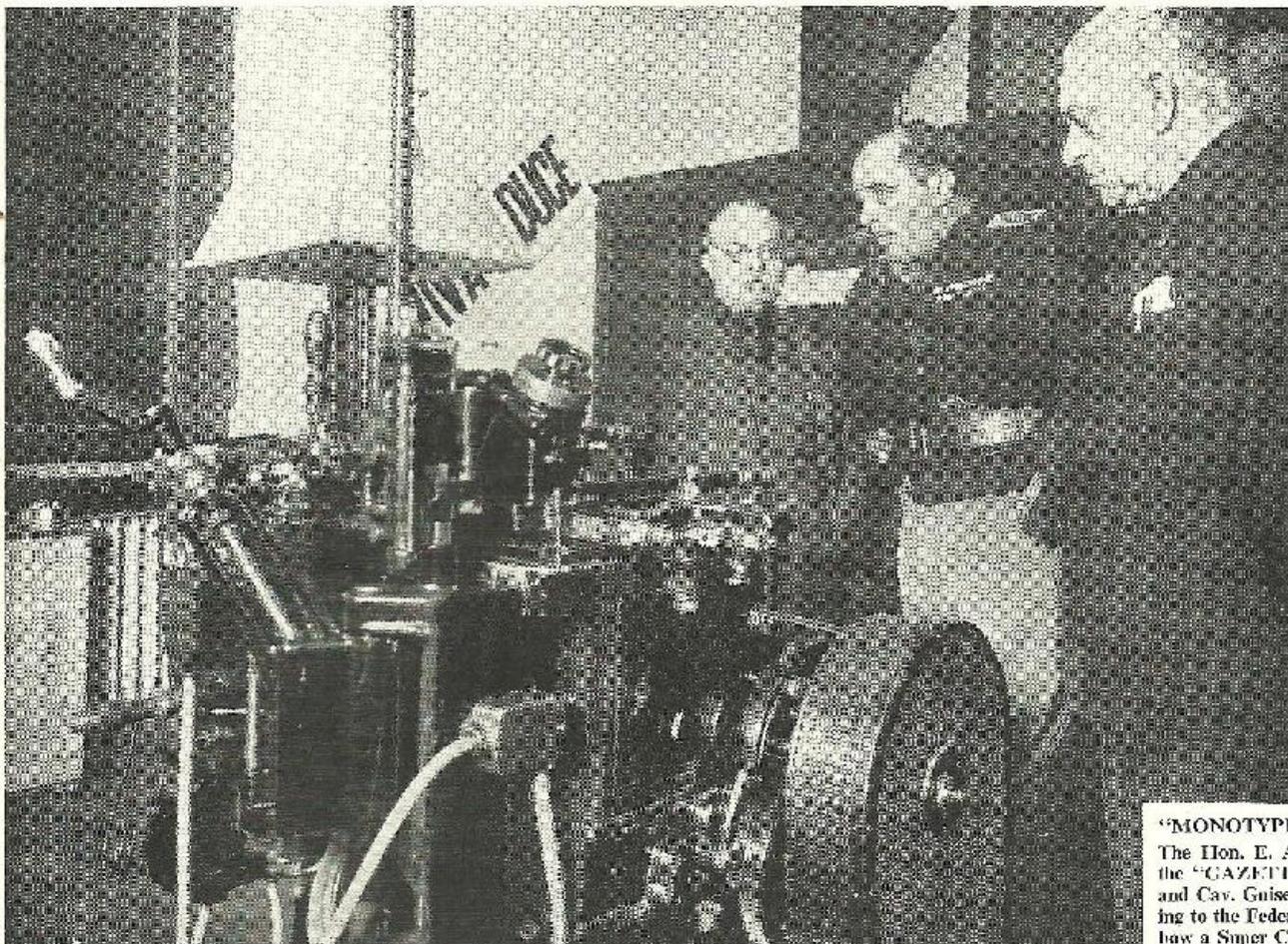
left Mr. B. Guy Fairbrother, Past President of the Federation of Master Printers. The luncheon and meeting

were held at the Connaught Rooms on January 4<sup>th</sup>. A brief report of the meeting is given on

page 17, and the paper read by Mr. Bates (top table), sketched at the list of Mr. Birch's

is given as our leading article in this number.

## M. U. A. LUNCHEON



**"MONOTYPE" SUPER CASTER**  
The Hon. E. Amicucci, Director of the "GAZZETTA DEL POPOLO", and Cav. Giuseppe Besozzi, explaining to the Federal Secretary of Turin how a Super Caster functions.

FROM THE *GAZZETTA DEL POPOLO* (TURIN) Nov. 25, 1934

*A special supplement in this issue is devoted to an explanation of the policy and success of this well-known Italian daily in modernizing its plant and greatly increasing both the quantity and the quality of its printing, as the corollaries to an editorial effort to interpret the "spirit of youth, freshness, modernity", in present-day Italy. The chief new mechanical feature is a rotary press capable of delivering 400,000 copies an hour and of printing in four colours.*

*The article continues:*

The new rotary made it necessary to produce stereotype plates more quickly and more perfectly, in order not to lose any of the advantage of a large, rapid and flawless printed output. We have therefore installed two modern stereotype foundries, which produce eight plates a minute.

But that is not all. The *Gazzetta del Popolo* has further taken care to

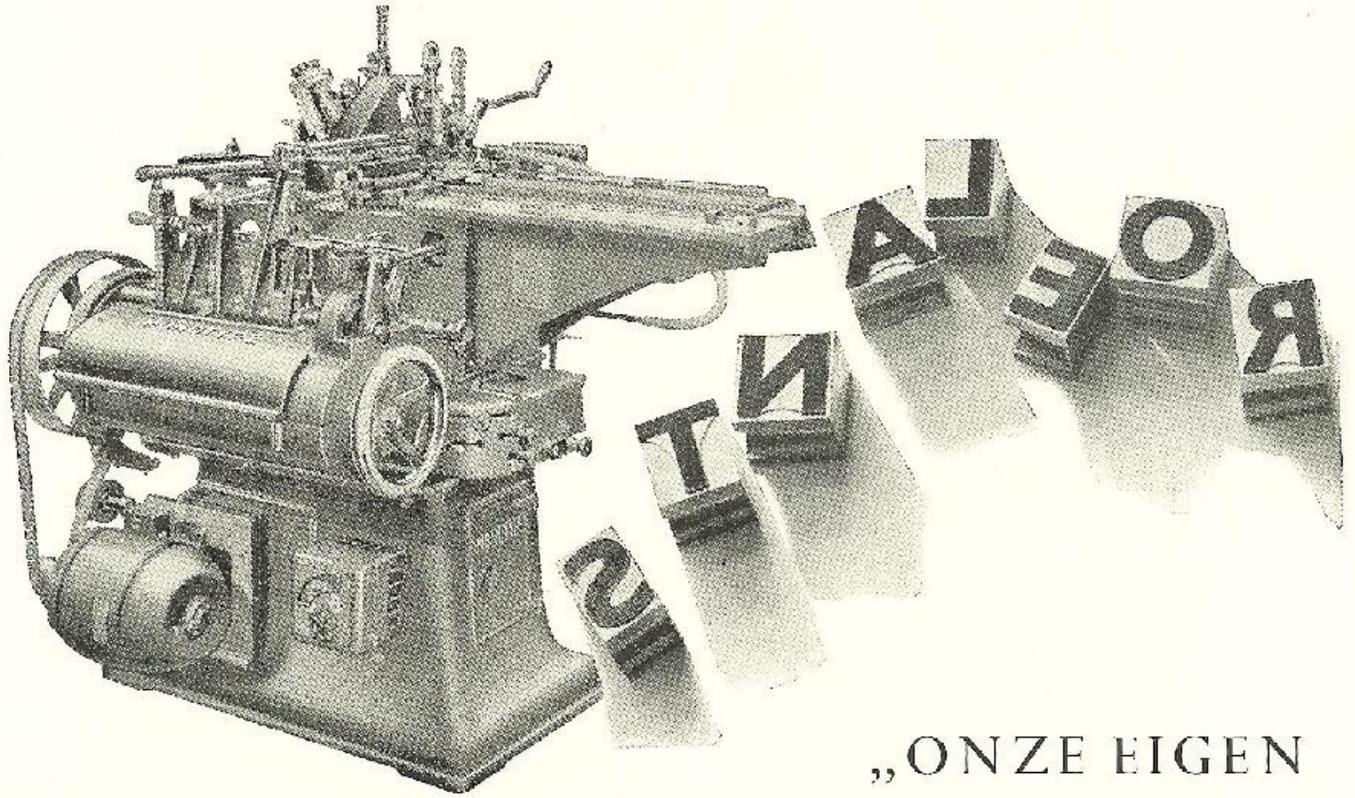
provide its readers with impressions from brilliant new type. Its display type is cast fresh for each day's use, by means of a wonderfully rapid **SUPER Caster**, the latest creation of the celebrated Monotype Corporation. This machine can average upwards of 125 types a minute from the first minute, and it produces sizes from the smallest as used in the captions to the largest display letters set as headlines across seven columns.

*The article then goes on to describe the new portable photo-telegraphic apparatus installed for the transmission of photographs, and various other innovations made necessary or desirable by the fact that this paper has tripled its circulation in four years of progress, and is looking forward to still greater conquests and production economies.*

Dalla *GAZZETTA DEL POPOLO*  
(Torino) il 25 novembre 1934

Un supplemento speciale di terza edizione vien dedicato ad un'esposizione sul l'attività svolta e sul successo conseguito da questo ben noto quotidiano italiano: nel rimodernarne il suo sistema come pure nell'accumularne la quantità e la qualità della sua stampa, ne rileva il logico corollario di quel tentativo, nel ramo editoriale, d'interpretare quello "spirito giovane, fresco e moderno" che regna nell'Italia attuale. Fra i fattori meccanici più degni di nota è una macchina a rotazione capace di fornire 400.000 copie all'ora e stampare in quattro colori diversi l'articolo continuo. La nuova rotativa esibiva una più rapida ed una più perfetta produzione delle lastre stereotipiche allorché non fosse in nessun modo diminuito il vantaggio di una grande, rapida, perfetta produzione della nostra *Gazzetta del Popolo*. Abbiamo perciò dotato l'impianto di due torni moderni che danno una produzione di otto lastre al minuto. Ma non basta.

La *Gazzetta del Popolo* si è preoccupata anche di dare al pubblico una stampa sempre fresca e nitida rinnovando i caratteri di giorno in giorno per mezzo di una celerissima fonditrice SUPRA dell'antica e rinomata Casa Monotype, ultima creazione delle sue officine, che può produrre fino a 125 lettere al minuto primo, dal corpo più piccolo dei sottotitoli al corpo più grande dei titoli su sette colonne.



Blocks by permission  
of Messrs. Roelants

## „ONZE EIGEN LETTERGIETERIJ”

Er was eens . . . maar daar spreken we als moderne menschen niet meer over! Dat was de tijd, waarin boeken kostbaarder waren dan edelsteenen, toen letter voor letter uit de haal geest werd. Hooploos werk was dat!

Er was eens . . . een sympathiek mensch in den Haarlemmerhout, die letters naast uit boemer (toen mocht dat nog, nu zou de uitvinder der boekdrukkunst geveerbalseerd zijn wegens natuurschennis!).

Nu ja, en de rest weet u wel. Toen kwamen er drukkers en er kwamen boeken en kranten en het wereldnieuws werd eerst met scherpere later met dendrende rotatie persen onder de oogen van miljoenen gebracht. Of dat nu allemaal de menscheit ten zegen geweest is . . . laten we er niet over praten. Ons als drukkers past het niet een oordeel te vellen over wat wij drukken. Wij doen ons best om het een smakelijken, duidelijken vorm te geven en wat het nu den opdrachtgever betaagd heeft om gedrukt te willen zien . . .

Halt, we wilden wat schrijven over onze eigen lettergieterij en we gaan filosofeeren. Als of de „Klokke” daarvoor de geschikte plaats is . . . (Laat de redactie dit niet zien, anders stappen zij het nog . . .).

In elk geval wilden we er maar even op wijzen, dat we ons zoo'n heel klein tikje vroeger als Laurens Janszoon, nwaerwel, die man, die door de Duitschers hardnekkig voor Gutenberg aangekeken wordt. Want Koster maakte zijn eigen letters en dat doen wij ook. Laurens Jansz. Koster kon praktisch elk model maken, waar hij zin in had. Wil ook! En Koster's materhalvoorraad was onuitputtelijk. De onze is pronte!

Gij, geachte en geduldige Klokke-lezer, gij interesseert u misschien niet in het bijzonder voor

de etters van uw drukwerk. Het gaat bij u om den aldruk. Maar dan zijn we juist op het goede moment bij u gekomen met deze afdrucken.

Want wij kunnen u datgene brengen, waar het bij u om gaat dank zij onze eigen lettergieterij. Vroeger moesten ook bij ons na het gerasolkomen van drukwerk de letters weer uit den drukvorm genomen worden. En schoongemaakt. En gesorteerd. En oorgeborgen. En de lijnen en het wit, dat voor den druk noodig is, kregen een aparte behandeling. Het alles was tijroovend, het vergoorte de sans no fouten, het was . . . ja in een woord: primitief. Maar er bestond niets beters.

WE GIVE ON THE OPPOSITE PAGE A  
FREE TRANSLATION OF THIS ARTICLE  
FROM "KLOKKE ROELANTS"

Issued by H. A. M. ROELANTS, PRINTERS, OFSCHIEDAM

Toen kwamen er zetrnachines, die lasse regels gaten. Dat was handig. Maar het had ook vele nadeelen. Voor verzorgd drukwerk was die machinale behandeling nog veel te uniform, veel te „nachtsmaal”.

De techniek ging voort en er kwamen proefmachines, die lasse lettertes gaten. De copie (de geschreven tekst) wordt daarvoor eerst in een rol papier „getypt” en een giernachine produceert tenslotte stuk voor stuk het lettermateriaal. En de letters verdwijnen na gebruik zoo weer in den smeltkroes. Maar de lijnen, de strepen, de versieringen, de groote letters, dat alles werd nog net verder behandeld als een nieuw geseden.

Wu waren toen zandijk tevreden, maar nog lang niet voldaan. Maar de ingenieurs zaten niet

stil. Er kwamen smelt-giernachines. En wij stichtten onze eigen lettergieterij.

En nu leven onze letters en lijnen, ja al onze drukmateriaal maar één dag. Als er een stuk werk klaar is gekomen, onverschillig of het een dozijn visitekaartjes is of wel een half miljoen tijdschriften, dan komt er een wagentje (als tenminste de drukvorm zeer groot genoeg voor is, anders roepen we een jongen, die het materiaaltransport verricht). En dan gaat de gehele vorm — product van urenlang moezamen werken! — den smeltkroes in.

En nu kunnen wij u strijd onberispelijk drukwerk garanderen. Nu drukken we steeds van fonkelnieuw materiaal. Geen lijn, loelang ook — geen letter, hoe groot zij ook zij . . . niets, of wij kunnen ze zelf maken. Nu kunnen wij u een stel dikke lijnen voorleggen om u keus te laten maken. Frantsch elke letter kunt u bij ons krijgen, als wij het bewuste type, wat u inder vindt niet bezitten, welnu . . . één week naar de Supra-machines en bij dralijnen, als het moet bij duizenden worden de letters in de magazijnen gesorteerd! Kontonigheid bestaat eenvoudig niet meer! Een drukwerk kan nog zoo ingewikkeld zijn, nog zoveel streepjes, lijntjes, interlines of wat dan ook mogen; onze voorraad is onuitputtelijk.

Kosten van letters kunnen wij gieten. Kilometers lange lijnen maken. Onze lettersortering is type onbegrensd, onze lettervoorraad is even groot als de lettervoorraad ter wereld.

Dit alles klinkt u misschien een beetje kolossaal in de ooren. Misschien schudt u het hoofd en denkt aan „eigen reent”. Maar we hebben geen letter te veel gezegd, en . . . dat willen wij u maar al te graag bewijzen. Bij voorbaat zeggen wij u ervoor dank, als u ons daartoe de gelegenheid wilt geven.

# FROM THE LAND OF KOSTER:

A PRINTER'S ACCOUNT OF

## "Our Own Typefoundry"

In the past few years our Advertising Manager has had the pleasure of reading dozens of "write-ups", by printers, of their "Monotype" machines. Customers are always interested in the magical details of the Printers' craft, and it is good advertising, good propaganda, to include such an account in a house organ. The article we reproduce below in a free translation appeared in a recent number of

KLOKKE ROELANTS, the ho"  
firm of printers, H. A. M. Roelants of Schiedam. It seems to us outstandingly good in that it avoids technical language and concentrates, with journalistic skill, upon aspects of production which laymen can and should understand.—ED.

Once upon a time . . . (but it was very long ago, and not a time which modern printers would recall. It was a time when books were more costly than jewels, and every type was set by hand. That is hopelessly out of date!)

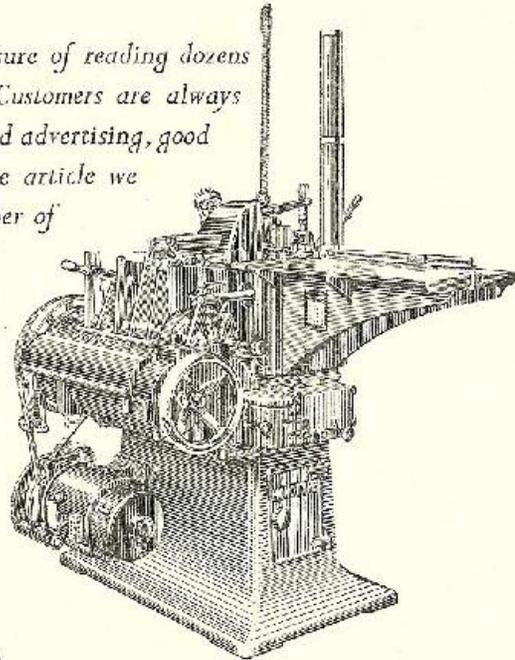
Once upon a time—there was a bright fellow in the Haarlemmerhout who cut type out of trees (a thing which could be done in those days, though nowadays the inventor of printing would find a warrant issued against him for destroying the countryside).

But you know the story. Printers established themselves and made books and newspapers, and the world's affairs were told to millions, first by fast printing machines and later by rotary presses. Whether this was a good thing for mankind we shan't say. We printers are not allowed to pass judgment on what we print. We do our best to make it attractive and readable, and whatever the customer wants us to print . . .

Enough! We intend to philosophise about OUR OWN TYPEFOUNDRY.

We want to point out that we are feeling a little bit like Laurens Janszoon—you know, the man the Germans think of as Gutenberg. For Koster made his own types and we do the same.

Laurens Jansz. Koster could make practically any face of type he wanted. So can we. And his stock of material was inexhaustible. Ours is even larger! You, esteemed and patient reader of the "Klokke", may not be particularly interested in the types used for your printed matter. What you want is a good result. But we are in a particularly good position to give you printed results. We can give you the sort of printing you require, thanks to having our own type foundry. In the old days we too had to take from the forme all the types which had been used to set a finished job. And we had to clean them. And sort them out again. And store them again. And all the rules and spacing material which had been used



had to be put back separately. This was all a waste of time, and increased the chance of making errors. In a word, it was primitive. But there was nothing better.

Then came composing machines which cast entire lines. This was handy. But it also had a great many disadvantages. For craftsmanly printing this kind of mechanical treatment was much too "mechanised".

But technical invention continued, and produced the wonderful machines which cast single types. By this means the copy (the manuscript) is first "typed" (perforated) on a reel of paper, which enables the casting machine to cast and set the types one after the other. After printing the types could be thrown into the melting pot. But the handling of rules, strips, ornaments and larger types remained as it was a century before. We were highly satisfied with what had been accomplished, but aware that the problem had not been entirely solved. But inventive ingenuity had not ceased. "Monotype" Super Casters arrived, enabling us to create our own typefoundry.

Nowadays all our type and rules and all our material exists only as long as it is actively useful. When a job has been finished, whether it may be a dozen visiting cards or half a million magazines, the forme is put on a little wagon (when it is

large enough, otherwise a boy takes it) and then that entire forme—which may be the product of many hours' work—goes to be melted down.

So now we can positively guarantee you faultless printing. We print without exception from brand new material. There is no rule, no matter how long—no type, no matter how large—nothing that we have not manufactured ourselves. To-day we can show you a set of thick specimen books from which you can make your choice. You can have from us practically any type face you want. If the type is not already there, well, we have only to go to the Super Casters to get dozens, and, if necessary, thousands of types for the various cases. Typographical monotony no longer exists. A job may be as intricate as you like and contain any quantity of rules, strip borders, leads or other material: our stock is inexhaustible. We can cast mile-long rules. Our type choice is practically unlimited and our stock of type is limited only by the amount of printing metal available in the world.

All this may sound a bit exaggerated. You may be shaking your head and putting it down to "pride of ownership". But we have not said a word too much . . . And we can prove everything we say if you will give us the opportunity.

*From "KLOKKE ROELANIS" No. 3.*

*Haarlem still has its claim against Mainz as the birthplace of Printing from Movable Type—in Europe: but the Chinese were ahead of both Koster and Gutenberg. And from the WILLOW PATTERN PRESS of Shanghai (Messrs. Millington Ltd.) comes a most up-to-date and striking number (in "Monotype" Gill Sans throughout) of THE MILLIGRAM, their house organ. An illustrated write-up of "Monotype" Gill Sans occupies one of the well-set pages.*

# LONDON AND DISTRICT M.U.A.

## ANNUAL GENERAL MEETING

An illustration in this number shows some of the gathering at the Connaught Rooms on January 23rd during the lunch which preceded the Annual Meeting of the Monotype Users' Association. After lunch, at which 187 were present, Mr. George P. Reveirs, in proposing a toast to The Monotype Corporation, stated that the members of the Association were again the guests of the Corporation at a lunch preliminary to their Annual Meeting, which he would convene after a brief reply by Mr. W. I. Burch.

Mr. Burch thanked the company for the cordial manner in which it had honoured the toast, and said that he suspected his old friend Mr. Reveirs of "artful conduct", as he had mentioned the approach of the Meeting, and had reminded the speaker that it was due to commence at 2 p.m. As it was already 2.17 p.m. he would have to be very brief. It was a pleasure to the Corporation to entertain the members of the M.U.A. and in the name of the Directors he thanked them for accepting the invitation. He wished to extend a very cordial welcome to all, and in particular to the distinguished guests who were present: he would not enumerate them all, but would only refer to Mr. Guy Harrison, the immediate Past President of the Federation of Master Printers; Mr. Bonwick, another Past President, and the Treasurer of the Federation; Mr. R. A. Austen-Leigh, another Past President; also Mr. Frederick Mason, President of the London Master Printers Association. He was sure he was expressing the wishes of all present in saying how delighted they were to see Mr. Mason and to know that he was much better in health, and he hoped that improvement would continue and ere long Mr. Mason would be restored to perfect good health again. There was also Mr. Hewitt, President of the Home Counties Master Printers Alliance; Captain Quick, of the East Anglian Alliance; Colonel Barrell, Chairman, and Mr. Botwright, Secretary, of the Monotype Users' Association of the West of England and South Wales; and also Mr. King, Secretary of the Midland Counties Alliance; and Mr. Richard Bates.

Mr. Bisset, the Secretary of the Association, read the apologies for absence received from Messrs. J. A. Stembridge, W. H. Sessions, J. S. Brunton, E. T. Shardlow and Colonel Fletcher.

The Minutes, which had been previously circulated, were taken as read and passed, and the Annual Report was unanimously adopted on a motion from the Chair.

Mr. E. G. Cole, the Treasurer, submitted the Statement of Accounts and pointed out that the Association was in a stronger financial position than last year, having a balance of £74, or £14 more than at the end of the previous year. The Accounts were duly passed.

Mr. F. Mason, proposing the re-election of Mr. G. P. Reveirs as *Chairman* for the ensuing year, said he was sure that no other name would be submitted as the *Chairman* had filled the position so well. The motion was carried unanimously.

Mr. Reveirs thanked the meeting for his re-election as *Chairman*, and said he would always do his best for the Association. He then announced that three *Vice-Chairmen* should be elected and stated that Messrs. CAHUSAC, CHEYNEY and SPRING were eligible for re-election. All three were duly proposed, seconded and re-elected.

Mr. Bisset was re-elected as *Hon. Secretary* by general and unanimous consent, and he urged those who were present and not Members of the Association, to join it, as "a matter of domestic economy".

Messrs. LIMBKEY and SYDNEY HUDSON were elected to vacancies on the *Committee*.

It was proposed and unanimously carried that Messrs. REVEIRS, CHEYNEY, CAHUSAC and MACKAY should be elected to the *National Committee*.

The meeting concluded with the reading of a paper by Mr. Richard Bates, which forms the leading article in this number. The lively discussion which followed bore witness to the practical nature of Mr. Bates's remarks.

## BOOKS AT BURLINGTON HOUSE

In the Royal Academy Exhibition of "British Art in Industry" the most successful exhibits were those which made the quickest superficial appeal to the eye across a label (rather a whimsical one in the circumstances): *Please do not Touch*. Books do have to be "touched" before they can be judged, so all we can say of the glass cases of books shown on this occasion is that they looked, in the main, too readable—too attractive to genuine book lovers—to be very "interesting" to the Art Critic as such. They showed, however, how the normal as well as the "fine" book in this country has benefited by separate type composition in magnificent

"Monotype" faces such as Bembo, Fournier, Plantin 110, etc.

The exclusion of Mr. McKnight Kauffer's posters as the work of an American shows such scrupulosity that we could wish that the title-page of the Illustrated Souvenir Catalogue of the Exhibition had been set in a display type of British design, or at least in a less distinctly exotic face. But the booklet itself is excellently printed by Messrs. Reich in "Monotype" Garamond Heavy, and the general Catalogue of the Exhibition is given a pleasant and workmanly setting by Messrs. Wm. Clowes in "Monotype" Times New Roman.

# THE TYPE UNIT OF "MONOTYPE" MACHINES

BY R. C. ELLIOTT

During the accomplishment of any process entirely by hand the expert craftsman gives little heed to science. The hand freely and automatically obeys the brain, and genius is graded rather according to the diversity and speed of mental action than by the facility with which the hands respond to the dictates of the brain.

But when commerce demands that processes be continually repeated science must be invoked and a system evolved.

In the case of type design the artist of old was not hampered by the necessity of taking into consideration the repetition of mechanical movements; he simply guided his hands as he thought best.

When type composition ceased to be entirely a manual operation, the considerations of mechanical limitations naturally put restrictions upon the type designer. Swashes and flourishes, for example, had to be limited, and the cost of production became a primary reason for limiting the number of body widths.

Benton, the inventor of the punch-cutting machine, settled himself down as a typesetter, and established a very lucrative business in producing what he termed "self-spacing" type. This "self-spacing" type simply implied that the type was designed to a small number of different body widths. These body widths were multiples of one-sixth of the body em, and all the characters of a fount were designed to six different widths, ranging from two-sixths to seven-sixths of the em. The hair space was the thinnest body, being one-sixth of the em, the figures and most lower case characters were four-sixths, and the capitals W, Æ, etc., were seven-sixths. It was contended that this method of type design increased com-

position output by ten per cent, but it detracted somewhat from the design-relation of the various characters as we have come to know such.

This was the first commercially successful instance of the limitation of type body widths, although the makers of composing machines which depended upon the use of foundry type had previously discovered the necessity of limiting type-widths to suit the grooves in which the type was stored or the slots through which the type had to pass.

When experiments were made with composing machines from which all the type had to be cast it was found necessary to give attention to the relationship of the various widths. The designers of separate type machines, after a long painstaking investigation, decided to split the body em into eighteen equal divisions, as it was found that the characters of the average type founts then on the market approximated to one or the other of these various thicknesses.

The first typesetter in this country to pay attention to a systematic method of "set" widths for type was Mr. John Haddon, the pioneer of the "point" system in Great Britain, who at the end of the last century issued a book of type faces, the body and set measurements of which were all based upon the American "point" method.

Although it is essential in the ordinary run of composition that the figures should be equal in set to half of the em, so that the figures in money columns may range in orderly fashion, there is no particular advantage in hand composition in insisting that types should be multiples of any fixed or arbitrary measurement; but in machine composition where all kinds of tabular and other

forms of intricate copy have to be composed expeditiously and economically, and where all lines must contain a certain number of units, it is essential, for the purpose of registering those units, that some standardised base should be accepted as the starting point.

As it was decided that the body em of any point size of type to be cast on a "Monotype" machine was to be divided into 18 sections, it obviously followed that the smallest point size divided by eighteen would provide the "unit" base from which to obtain all other sizes, and the figures by which this base unit was multiplied was made to serve as a denominator to indicate the "set" of the fount thus obtained.

The measurement of 1 point is .013833, and this divided by 18 produces .000768 as the base unit of all "Monotype" composing machine founts, and all characters, no matter what the

fount may be, are some multiple of this measurement.

When an operator adjusts his measure on the keyboard he does not set it in ems to the number of picas to which the type has eventually to be printed, but to the measure equivalent in ems of its own body, and as the copy is composed the mechanism automatically registers the number of units which has been apportioned to each character. It is by this means of unit registration that the operator is made aware of the amount that has been composed in any line or section of a line, with an indication of the number of units to be added. In practice the unit method of type design and composition has proved everything to be desired, especially during hand correction of proofs, and testified to the searching care bestowed upon their task by the designers of the single-type composing machine.

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## "YOU DON'T BUY PRINTING—"

*A printers' House Organ which is packed with helpful ideas and facts is that of Messrs. L. T. WATKINS LTD., of Wellington, N.Z. On the first page of its February number, WATKINS' REMINDER (edited by Mr. R. C. Moffat) prints what is really the basic truth about print-buying:—*

You don't buy a paper—you buy NEWS.

You don't buy glasses—you buy VISION.

You don't buy theatre tickets—you buy ENTERTAINMENT.

You don't buy an awning—you buy SHADE.

You don't buy life assurance—

you buy PROTECTION FOR THE FAMILY.

*You don't buy printing—you buy SALES EFFORT, BUSINESS STANDING,  
PRESTIGE and CORRECT PRESENTATION.*

# "BACK ALONG: THEN AND NOW"

BY H. DYKE SMITH

On reading in the Summer No. of *The Monotype Recorder* the very instructive article, "Prometheus in the Printing Office", one cannot but compare the trials and tribulations that crossed the path of the old-time keyboard operators of the early days of "Monotype" machines with conditions as they prevail to-day.

Looking back over thirty years, I well remember reading a short news paragraph dealing with the new bogey that was to put all Compositors out of work, on the "Parish", and eventually into a premature grave. The writer of the short "notice" laid it on thick and heavy. He made it very plain that "Monotype" machines were going to revolutionize the world of Print, and that the future of the wonder machine—as he termed it—was to be the undoing of the Compositor and his craft. Even so early in its life, the "notice" writer admitted that its future was assured.

My curiosity was aroused; but that was as far as I got—for a while. At that time I was working as a news Comp. in an office of about sixteen case "hands", an Overseer, and a sprinkling of Printer's "devils" as a fill-up. The firm produced two weekly newspapers, at the same time running a General Printery as well. During my seven years' apprenticeship, six years were spent in the Jobbing Department; I was transferred to the news side twelve months before my apprenticeship was finished. The work here was hard, uninteresting, and the hours long. From my point of view the only redeeming feature about the change over was that it enabled me to become accustomed in dealing with all sorts and condition of "copy". Down the years this has proved of much value to me.

I could not, however, get the "Lanston" notion out of my mind, and I wondered if it would be possible to become a worker on this so-called "bogey". My knowledge of what it was like, or the class of work it was supposed to do, was nil. In a short time I was to have my dream brought to life.

News reached us in the "Works" that our Employer was going to have a "Monotype" machine.

I did not intend the grass to grow under my feet, so taking my courage in both hands, I awaited my opportunity, waylaid my Employer and rather nervously asked him if I could learn the keyboard. The severe look he gave me plainly showed that I had put my foot in it and knew more than was good for me. His answer was brief, very brief; just "No"!

At last the machine arrived following much preparation. The excitement its arrival created was tremendous. All the case "hands" worried and wondered what it was going to do to us, and who would be kept on. Events proved that we need not have worried at all.

When everything was in order and the launching of the plant was completed, two of the older comps. (old apprentices) were duly instructed by the Company's experts in the working of Keyboard and Caster respectively. Later a second Keyboard was installed, and I took on a "do or die" attitude. My persistent requests were eventually rewarded with permission to practice on the keyboard when it was disengaged.

My opportunity I grasped with both hands, for I felt that it was one of the great moments of my working life, especially as I disliked "case" work and the long hours associated with "news" work. On a "Monotype" keyboard work was to be clean and conditions more comfortable.

By working part of my dinner-hour and when "dis" time arrived at the week-ends, I soon acquired (in a fashion) an elementary knowledge of the keyboard. After about six months of this "touch and go" business, another "C" keyboard was installed (I may be a bit out in the time) and I was given a full-time position on the board. In those days sources for gaining information as regards "Monotype" machines were few and far between, and as my working days were taken up with setting "solid" news the chances

of getting out of the rut were limited. We knew of no hard and fast rule in keyboard fingering, such as prevails to-day, "in striking the same key with the same finger", so that speed on a "C" board was largely a matter of individual effort.

The Monotype Corporation hereabouts instituted the Christmas Competitions for Operators. Our Employer advised us to have a "go" and encouraged us by giving us every opportunity to take a hand in the game, and see what sort of a "fist" we could make. I believe three prizes came to our office at our first attempt, giving us all great satisfaction.

After much study at home in trying to work out how best to set tabular matter quickly and easily, I thought I had learnt enough to enable me to sever my connection with the Office where I was initiated into the mysteries of the printed page.

On learning that Messrs. Seargeant Bros., of Abergavenny, Mon., were installing a keyboard and caster, I applied for and secured the post of keyboard operator with them in or about April 1906.

This was my first job away from my home town, and it proved of great value to me. My wage was better, working conditions good; but chiefly the work was much more interesting and the hours less than I had been accustomed to. It was not until my entry here that I was brought face to face, as it were, with what a "Monotype" machine could do. My troubles were legion, but I did not lose any sleep on that score. By dint of more home work and hard work at the office I laid a good foundation for tackling intricate and difficult composition. As was to be expected, at that time I often went off the rails, and as I look back and recall how I produced certain work I am compelled to admit to myself that the operation I used in securing the finished job was a very long and roundabout one, which could have been done more easily and quicker—when one knows how.

Soon I had satisfied myself that anything that was grist to the mill I could manage satisfactorily.

Prior to the Great War I had removed to Leicester, where I spent a very happy time for several years with Messrs. Adams Bros. & Shardlow Ltd. In 1915 other matters than print claimed attention. At the end of 1918 my War service terminated, and I spent twelve months in the West Country. By now I was surely entitled to consider myself a rolling stone, with a difference. I decided

that the Midlands would be my best chance. Up to this time I had worked on a "C" board, and was anxious to get an opportunity of working the later pattern "D" keyboard. By securing a post with the Birmingham Printers Ltd., this opportunity was granted, and in a short time I was fairly conversant with the new "typewriter" layout on the keyboard, and the new style of fingering. With this firm I had plenty of scope to do the kind of work that was to my own liking. In 1925 I removed to another firm in the City of Birmingham, the old-established firm of John Goodman & Sons. My preference for tabular composition has had full opportunity with this Printing House, where I still earn the butter that goes with the bread. This brings me down to the present time: thirty years spent as a Keyboard Operator on a "C", "D", and finally a "DD" board.

I cannot close this account of my life as an Operator without making one or two observations that come to my mind as I look back along.

I have always found the Corporation ever ready to assist and advise Operators in any case of difficulty that may arise. On occasion their help has been forthcoming when I have sought it, and I have always felt that "the interests of the men who work the machines the Corporation make" command a foremost position in the affairs of the Corporation. On our side this interest is appreciated. To know that the technical and practical knowledge of The Corporation is always at the command of the Caster or Keyboard Operator for the asking, it is small wonder that we in return should be anxious to uphold the reputation of all the word "Monotype" stands for. We as a class are not dismayed by our slug competitors. The comparison is too obvious!

The Operator trained to-day has not to contend with the difficulties that fell to the lot of the old-timers. Improvements and various attachments help him at every turn; in short, the brain work to a certain extent is done for him.

One of my chief difficulties as a Keyboard Operator I have found to come from the want of knowledge on the part of Overseers of Composing Rooms in regard to the working of "Monotype" machines. Frequently the Operator is not consulted as to how a particular job is to be done. The man on the board is simply informed that such and such a type face (or faces) is to be used, with faces of one series or another worked in conjunction with

THE MONOTYPE RECORDER

faces that cannot profitably be used. For this state of things I am afraid there is no remedy. I may have been unfortunate in this respect, but it would be to the mutual benefit of all concerned if Overseers as a class would co-operate with the Operator or Charge Hand who is responsible for the production.

In many offices that very instructive and interesting journal, *The Monotype Recorder*, never reaches the man who could often turn its contents to good

account.\* This is a great pity. Unless the journal is available, it cannot get the appreciation it so richly deserves. The Corporation, however, are not to be blamed for this state of things.

Looking back over thirty years' work as a "Monotype" Keyboard Operator, I can see how the machine has altered my career and turned an unpleasant outlook into a happy, interesting and profitable working life.

\*See editorial, p. 2.

"GENERAL PRINTER"

THROUGH MY OFFICE THEY PARADE:  
DOCTOR, LAWYER, MERCHANT-CHIEF;  
EVERY HONEST ART OR TRADE  
COMES TO ME . . . OR COMES TO GRIEF.

\*

PREACHER, I CAN SAVE YOUR BREATH:  
TEACHER, THUS MAY TRUTH BE SHOWN:  
POET, WOULD YOU MOCK AT DEATH?  
COME TO ME . . . OR DIE UNKNOWN.

\*

PASSING DOWN THIS QUIET STREET  
MARK MY WINDOW, FRIEND, AND STOP:  
HERE THE WORLD'S GREAT HIGHWAYS MEET,  
HERE, WITHIN MY **PRINTING SHOP**

\* \*  
\*

WRITTEN BY P.H. FOR THE MONOTYPE RECORDER AND SET AS A SPECIMEN OF  
PERPETUA TITLING CAPITALS 258 IN THEIR COMPOSITION SIZES:

TITLE, 12 POINT, LAST TWO LINES 11 POINT,

REMAINDER 10 POINT FULL FACE; LEADED FOUR POINTS

THE ABOVE NOTE IS IN SERIES 230, 6 POINT CAPS., AND THIS SHOWS THE 6 POINT SMALL CAPS

## A NEW "MONOTYPE" SPACE AND QUAD MOULD

For some time we have had periodical requests to produce a special "Monotype" Mould for casting quads and spaces for the benefit of those printers who have much hand composition for general display and casual work, and we are pleased to state that such a mould is now ready for delivery, and may be inspected at our Demonstration Room.

The mould is of the single blade variety, for casting quads and spaces to the standard height of one pica less than type height, but customers preferring any special height can be accommodated accordingly.

The "Quad and Space" mould consists of the usual frame, with a set of interchangeable blades ranging from 5 point to 12 point, and quads may be cast in any of these body sizes up to a width of 36 points, such as 6 ems of 6 point, 4 ems of 9 point, and so on, according to the blade used, and any thickness of space down to hair spaces.

The mould is so constructed that it is not necessary to have the bridge attached to the machine whilst casting quads and spaces. The speed gear must be brought into operation, as the larger quads must be cast proportionately slower than the normal speed of casting composition.

The price of the mould includes its equipment with one blade for any selected body size, and any additional blade from 5 point to 12 point can be purchased at the same time, or as need arises, for a very small extra charge.

# QUESTIONS of Interest

- (1) FROM A MASTER PRINTER: ON THE CHOICE OF A BODY FACE .. .. . (below)  
(2) VARIOUS QUERIES: ALGEBRAIC FORMULÆ: A SPECIAL COMBINATION, ETC. .. pp. 25-26  
(3) FROM AN ENQUIRER WHO "THINKS SETWISE IN PICAS": WHAT ARE UNITS OF SET? p. 25  
(4) FROM AN OPERATOR: AN INTERESTING PROBLEM IN TABULAR SETTING .. p. 27
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*"We have decided to budget for the purchase of one really first-rate body face each year for the next three or four years. That is because we see distinct possibilities in booklet, house organ, and the better class of catalogue work now opening up. Each face must 'pay its own way'; we are tired of stocking this or that size of some odd face because a*

**T**he idea of budgeting for "permanent" body faces is a modern printer's solution of the problem of the "type-fussy customer".

Every advertising manager knows that any printer whose "Monotype" Caster is equipped with a display attachment can produce a wealth of attractive display type; but that the possession by a printer of one or two first-class text faces in an adequate range of sizes indicates that the firm has deliberately planned to meet the requirements of modern customers.

Our suggestion to this enquiry was to make "Monotype" Imprint the standard body face for any purpose for which Plantin might be too heavy. Imprint has the great virtue of being "normal". It could be described as the 20th century Caslon. Caslon's Old Face has recommended itself to three generations of book readers. So as a model it has the great virtue in a body face of "looking natural" as a reading face. But the modern practice of leading or setting on a larger body makes Imprint an improvement in so far as its x-height is greater. Its almost imperceptible increase of weight is a recognition of the lighter impression used by the modern printer, who no longer impresses types upon dampened hand-made paper; and the slight regularization of some of the characters has made it

*specific customer wants it. We have put in Plantin 110, and we have two composition sizes of Gill Sans. What would be the next face to plan for?"*

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apparent to some critics that the original Caslon pica caps. are unnecessarily heavy. **To continue with the "twentieth century advantages" of Imprint: it has an excellent related bold face—a necessity in a great deal of modern printing—and the italic is pleasant and well proportioned.** There is also a related outline letter. The keybar frames as already used for Plantin 110 can be used for Imprint as well. Imprint 101 with 410 bold can be set in 7-alphabet combination.

With three first-rate "neutral and normal" faces which between them are suitable for any paper surface or process, the firm will have a "basic repertory" of permanent value, one which is "all-round and safe and sound". Thereafter the new acquisitions can have more "personality". The Type Face Chart in our No. 13 News Letter is of use here. In every case where a new body face is stocked, it should be announced to customers as impressively as possible. The general printer has so few specific "talking points" that he cannot overlook the one which interests his customers above all: the history and value of a face that *not every printer stocks.*

## QUESTIONS OF INTEREST—continued

You are cordially invited to send us queries, either technical or general, for answer in this section, by our Technical or Typographic Advisers

**Q** When setting algebraical work we find it necessary to insert pieces of rule to divide the numerator line from the denominator line, because the ordinary em rule shows too much white. Is there any way in which we can use the ordinary em rule for this purpose so as to avoid the cutting of small pieces of rule and the hand work which is entailed?

**A** Sometimes when setting algebraical equations the figures are cast on smaller bodies so that they overhang the shoulders of the line of em rules which come between the numerators and denominators. A better method, however, is to use rules cast on a small body, and for this purpose the special short length "Monotype" rule mould should be used for casting any length of rule up to 3 ems of pica. The consequent saving in time on this class of work is very considerable, to say nothing of the improved appearance of the product. Further, complete non-distribution may be practised, as there are no short lengths of cut brass to sort out before re-melting the type forme.

**Q** Can you advise me as to the cause of casting type high to paper? It was only one character that did this, and the trouble was overcome by inserting a new matrix in the matrix-case. There may be other remedies for this. If so, I would like to know.

**A** This particular character was cast high to paper owing to the matrix having been hammered too heavily upon the mould, causing the surface of the matrix to be expanded over the punching. When a type is cast in such a matrix, the matrix cannot be withdrawn from the type without drawing the head of the type slightly upward. This is shown by a scratchy brightness on the sides of the type head. See that the centring pin is correctly set, as the pin may be reaching the base of the cone hole too early. Also see that the mould surface is in good condition. Such matrices may be rectified by carefully scraping the burr from the edges surrounding the punching, but if overdone the matrices may be ruined, as they would cast type with overhanging heads. High type may also be caused by the centring pin point resting on the retaining wall instead

of the sides of the cone hole, and thereby preventing the matrices seating firmly on the mould.

**Q** Have had a great deal of tabular work in hand recently. Not being thoroughly conversant with the "unit" and "set" I am finding it troublesome to cast up. Have you any literature to help me out? Something explaining the equivalent of "units" and "set" in points.

**A** The word "set" is like the word "broad"; the phrase "point size" is like the word "tall": each refers to one dimension only. Body size (depth) is measured in points; set-width can be given in points, but on "Monotype" machines it has its own unit of measurement, called *the unit of set*: one-eighteenth of the widest character in the fount. Hence in laying-out or casting-off matter for "Monotype" machines, the whole mental concept of the point (or pica) as a unit-of-measurement becomes of secondary importance. Actually the operator makes no reference to the *point-size* of the type; he thinks only of the *measure* of his setting, and his measure is to him so many ems and units of set.

Thus when he strikes a cap. W of a given fount he uses an em of the measure. The fact that it is a 12-point or a 10-point W does not concern him, nor does the fact that it may be a condensed or expanded face. The face decides the measure, a given pica measure requiring more ems and units of "set" in a condensed face than in an expanded face. The cap. W occupies a whole *em of set* in the line's width; a numeral would add an *en of set*: and both these quantities are expressed in units of lateral measurement—units specific to that fount, known multiples of a basic unit (applicable to any fount). He knows that his widest character is 18 units wide, his "en"-width numeral is nine units; and he knows that the keyboard automatically registers the width of each successive letter whether it be the lower

case i which is 5 units of set, or the lower case m which will probably be 15 units of set.

Now it will be seen why the layout, especially of tabular work, may as well be thought out in terms of units of set, that is, in ems, ens and units of set. For just as the depth of the setting, if given in inches, has to be translated into points (or their multiples, picas), so the measure given in picas has to be translated into units of set (with their multiples ems and ens). In tabular work, lateral measurement is everything. A book page is a fixed number of lines deep; a table is only as deep "as it needs to be". Its "set-wise" problems, however, are inflexible; everything depends on allocating the proper internal measures without wasting space.

So there is no reason why the "planner" of the job should not talk to the operator in his own language. If he starts with the exact or approximate measure in picas, he need only resort to the Table of Pica Equivalents which is available in the Pocket Book of Information (price 1s.) or to the Pica Equivalents Card supplied with each Keyboard, to find the equivalent in set ems, ens and units. Suppose for example that this problem is to plan a revised re-setting, in a smaller size, of a table, getting more matter into the same measure, which is  $41\frac{1}{2}$  pica ems wide. He notes, quite incidentally, that the new fount is 7 point; what interests him is that it is  $7\frac{3}{4}$  set, and not (as it might be) 7 point, 8 set. In the pica ems (bold figure column) of the Chart he glances down to the number  $41\frac{1}{2}$ , then looks across to the left and finds, in the column headed " $7\frac{3}{4}$  set", the parallel figures 64-5. That means that 64 ems of  $7\frac{3}{4}$  set, plus 5 units (18ths) of that set em, will be the measure to which the keyboard operator will set his scale. If the former fount was 9 set, a glance further along the columns shows him that only 55 ems and 6 units of that set went to the same measure; and he has an immediate specific aid in calculation.

Our "Book of Equivalent Measures" is a ready-reckoner for translating a measure of a given set

into another (or the same) measure of another set. And finally, to see why the set unit is such a time saver, one should consult our text-book of Exercises in Tabular Composition. A shortened version of this book is in hand, but it will not be published for some time to come, and the present book (though it contains some very subtle "post-graduate" problems) can be of real value to those interested.

**Q** *Considerable time could be saved in handling if we could cast Black cap. headlines, 10 point, with our 8 point body fount. Can this be done?* A.P.N.

**A** Headlines may be composed in type of a larger body size than the general composition, by casting them on the smaller body, and inserting a lead to allow for any slight overhang. Thus, 8-point composition may have headlines set in 10-point caps. from the same matrix-case, by arranging to letter-space all the 10-point caps. two or three units of set, according to the average difference in thickness of the character of the two sets.

Here is an example: arrows indicate leads dropped in by Automatic Leading Device, as "signalled" by the keyboard operator.

**TEN POINT CROSS-HEAD**

Headlines may be composed in type of a larger body size than the general composition, by casting them on the smaller body, and inserting a lead to

**EIGHT POINT TEXT**

allow for any slight overhang. Thus, 8-point composition may have headlines set in 10-point caps.

**Q** *Recently I had the experience of a particular character developing bad alignment whilst running copy on a "Monotype" casting machine. Can you tell me the reasons for this, which I am sure would be helpful to others?*

**A** Without having seen the matrix in question it is difficult to suggest the precise cause. Probably the centring pin had worn on the point, causing the base of the cone hole of matrix to become punctured, thereby causing the point of the pin to rest on the matrix retaining wire. Test the centring pin with the gauge provided for this purpose, and if the point is too long have the pin rectified. Perhaps the matrix had become bent at the centre.

# SUB-DIVIDING THE COLUMN: *an interesting point*

*raised by Mr. F. A. BALKWILL*

OPERATOR AT THE "BIDDEFORD GAZETTE"

**Q** Re your Article "Hints on Tabular Composition" in the Winter Recorder, I beg to submit the following query in connection with Exercise 35:—

Suppose the second and third main columns had been sub-divided instead of the first, thus:

1	2	3
---	---	---

Where then would allowance in equivalent unit value be made—at the beginning of the line or inside the columns sub-divided? If allowance is made at the beginning of the line then the rules already dividing the main columns would prevent the movement of the type inside and the space so allowed would make the first column short without having any effect on columns two and three. If, on the other hand the allowance for rules is made inside the main columns to be sub-divided, then it involves the putting in of a 4-unit space (one 2-point rule)—which means a separate justification for the operator and greater difficulty in handling for the compositor.

If the compositor used pieces of down rules equal to the depth of each heading, then it would be possible to make equivalent allowance at the beginning of every line.

**A** Allowing for a single vertical rule often perplexes the keyboard operator, as the nearest unit of the set in use may not be exactly equal to the thickness of the down rule. In the example under discussion the cast-off in 8½-set was as follows:—

22 ems 11 units			} lines
8 ems 3 units	7 ems	7 ems	
4 e. 7 u. 3 e. 9 u.			

The lines 4, 5, 6 are composed in three columns totalling 22 ems 3 units, and 8 units are composed at the beginning of the line to allow for two 2-point rules. The difference between 8 units and 4 points is .003", and this section will be short in width by that amount.

In lines 7, 8, 9 the measures total to 21 ems 16 units, with an allowance of 13 units for three 2-point rules.

The difference between 13 units and 6 points is .0019", and these lines will therefore be that amount too long, making a total difference of .0049" between the lower and centre sections, or nearly 1 unit.

Operators who are very particular regarding accuracy would make the measure of the intermediate heading equivalent to the total measure of the two lower columns (7 ems 16 units), and compose w before all these lines. In the make-up a piece of 2-point lead would be placed vertically in the upper measure, and this would make all the lower six lines accurate in length to within .0019".

The cast-off would thus become:

22 ems 11 units		
7 ems 16 units	7 ems	7 ems
4 e. 7 u. 3 e. 9 u.		

Similarly in the alternative example suggested by our correspondent the layout might become:

22 ems 11 units				
5 ems 16 units	7 ems 16 units	7 ems 16 units		
4 e. 7 u. 3 e. 9 u.	4 e. 7 u.	3 e. 9 u.	4 e. 7 u.	3 e. 9 u.

In this case a vertical 2-point lead would be placed at the left end of the two columns of 7 ems 16 units to compensate for the vertical rules below.

Sometimes the difference between a number of "points" and the nearest equivalent in "units" may not be significant in a double column, but it becomes a serious consideration where this difference may be multiplied several times across a sheet. Some operators in such cases, in order to be very exact, would include a justifying space in the upper lines, and justify the lines of that sectional column so that an exact allowance would be made for the single rule below. Thus, two units of 8½-set are .0016" less than the 2-point rule; the space would therefore be justified 14-2, equivalent to 1 em plus .0015".

This is the kind of intelligent inquiry we particularly like to receive, concerning the operation of the machine.

