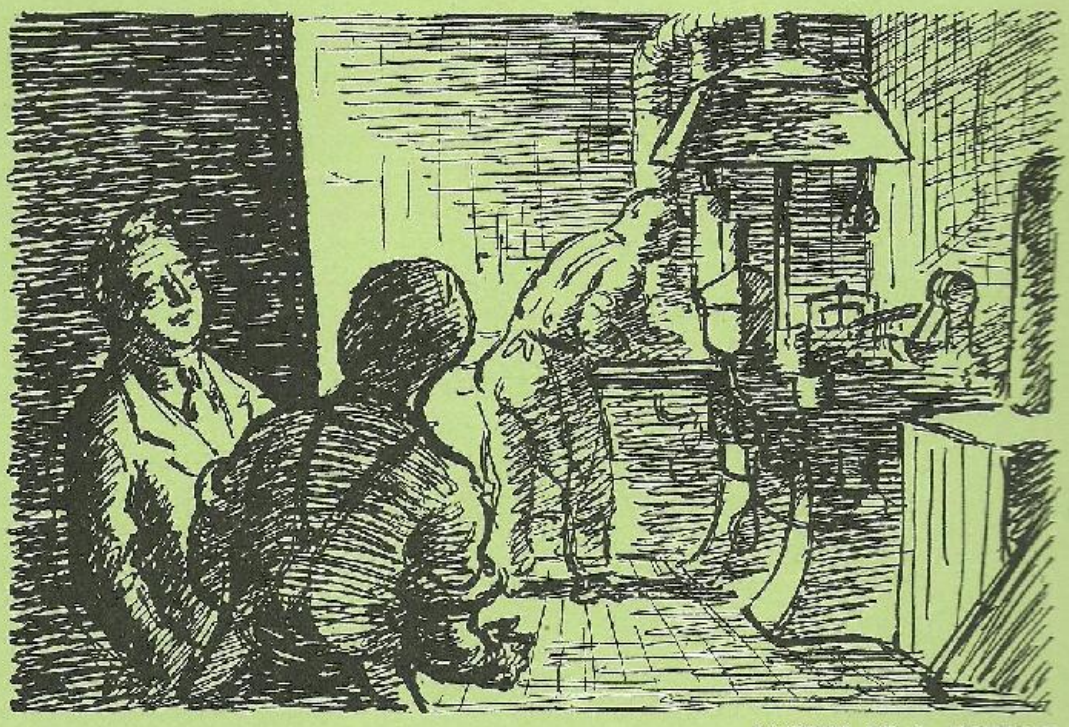
THE MONOTYPE RECORDER

VOL. XXXVIII No. I



DRAWING BY E. ARDIZZONE
FOR THE CURWEN PRESS LTD.

SPRING 1939

THE MONOTYPE CORPORATION LIMITED
43 FETTER LANE, LONDON, E.C.4

THIS NUMBER IS SET IN "MONOTYPE" BEMBO

ONE OF THE FEW OLD-FACE DESIGNS THAT RETAINS ITS "PERSONALITY" ON COATED PAPER

16 pt.: p. 3. 12 pt.: solid pp. 4, 6, etc., and with Bold. p. 27; leaded, p. 5. 11 pt.: solid p. 13; on 12, p. 26. 10 pt.: on 11, pp. 10, 11. 9 pt.: pp. 4, 5. 8 pt.: pp. 4, 9, etc. 48 pt. caps opposite. Plantin Titling 438, 72 pt. on cover.

ELECTROS OF THE HALF-TONE BLOCKS ON PAGES 2, 6, 7, 10, 11 AND 18 ARE AVAILABLE ON LOAN TO ANY USER OF "MONOTYPE" MACHINES IN THE SIZE SHOWN, OR IN A LARGER SIZE [9″ DEEP × 7½″].

LINE BLOCK ON COVER BY KIND PERMISSION OF THE CURWEN PRESS

CAN ANY READER COME TO MR. E. R. G.'s RESCUE?

Mr. E. R. G., of Liverpool, writes to the Editor: "*Can you possibly procure for me another copy of the Spring 1938 issue of the* RECORDER*? I lent my copy to persons 1, 2 and 3. Nos. 1 and 2—stout fellows—returned it to me. No. 3 lost it. I have given him weeks in which to search for it but now he comes along with the last word on the subject—it simply cannot be found. It would be a shame to spoil the run for I have them complete from Vol. XXXVII to date and treasure them very much. I know so well that the demand for copies is tremendous and that those who are privileged to receive them should take care of them . . . but my intentions were good when I lent this copy!*"

Unfortunately Vol. XXXVII—No. 1, Spring 1938, was one of our most popular numbers, and our last remaining separate copy went several months ago. We hate to disappoint such an appreciative reader, so we hope E. R. G.'s plea will catch the eye of someone who still has that number, and would part with it. ED.

PRINTED IN ENGLAND AND PUBLISHED BY THE MONOTYPE CORPORATION LIMITED

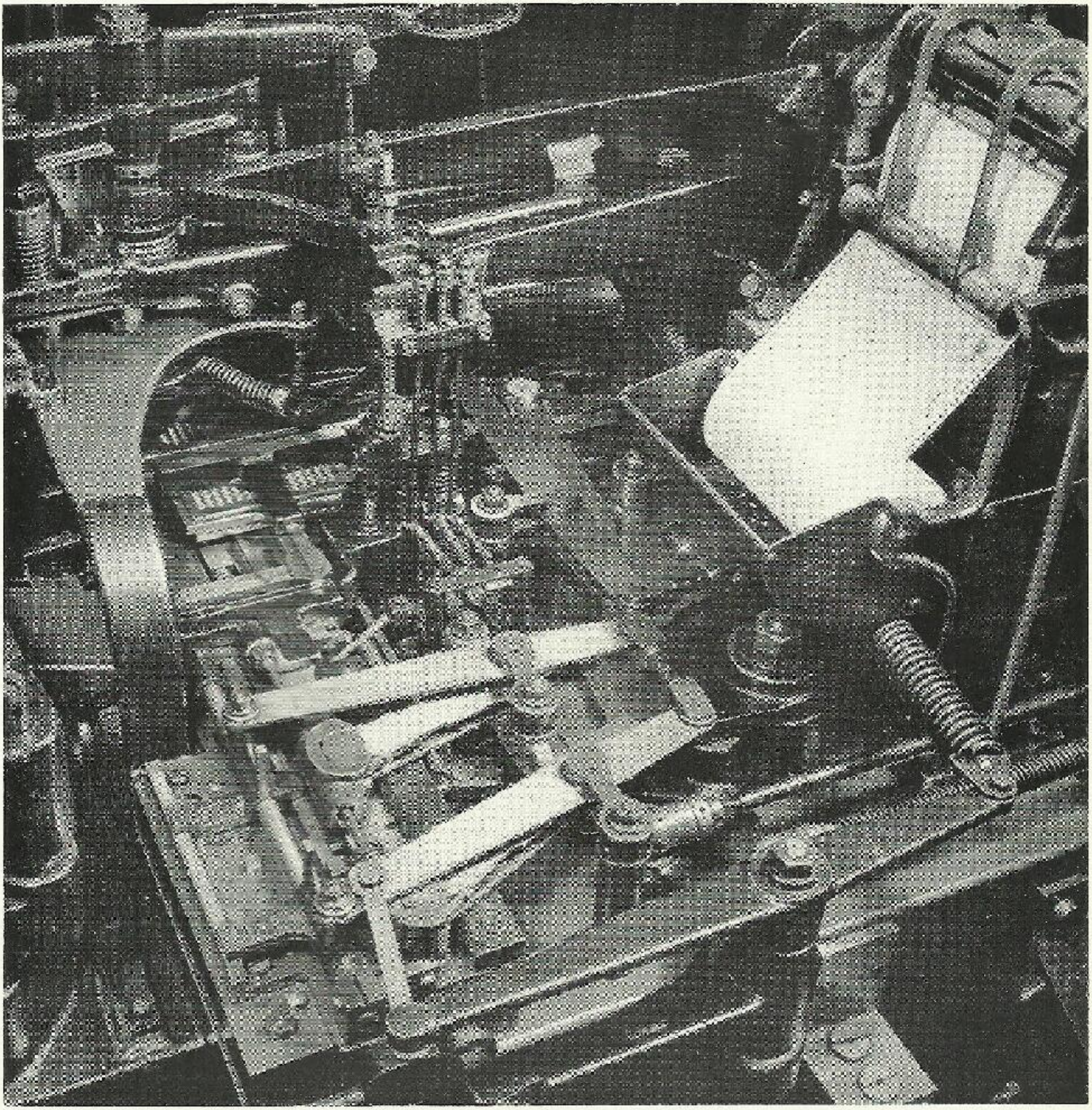
THE MONOTYPE RECORDER

VOL. XXXVIII
NUMBER ONE

FOR USERS AND POTENTIAL USERS OF "MONOTYPE" MACHINES AND MATRICES

"Monotype" Machine Number

The Monotype Corporation Limited, 43 Fetter Lane, London, E.C.4

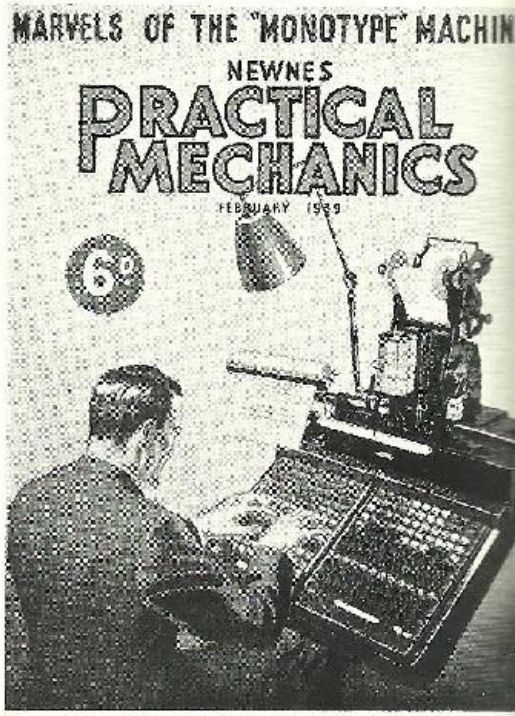


A Stop Pin (*lower left*) rises to check the forward thrust of the MATRIX-CASE along the grooves of its frame. The sideways thrust of the matrix-case and carrying frame is simultaneously stopped by another pin in a second block set at right angles (*not visible here*). Each pin corresponds to a perforation in the RIBBON. [*A new photograph that will appear in the forthcoming* "PICTURE BOOK OF 'MONOTYPE' MACHINES", *enlarged edition, plastoic-bound, 6d.*]

"MONOTYPE" MACHINES

IN THE LIMELIGHT

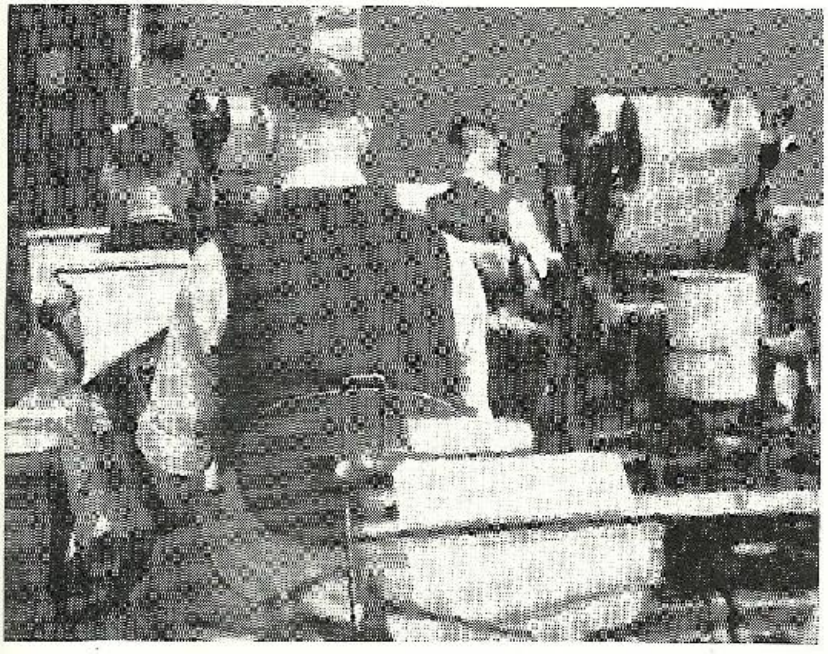
For some reason, of which we confess ourselves ignorant, the World at Large seems to be taking an amazing interest this year in "Monotype" machines. Amazing it is, to any right-minded Master Printer, that an instrument so commonplace in the twentieth century composing room should have appeared within one month, in full colours on the front cover of a popular-science monthly, in diagram as a Modern Marvel in another well-known national monthly, and in that pictorial pageant with which the triumphant *Picture Post* told its 1,250,000 readers how its pages were set and printed. Amazing (says the hard-headed printer) that each of these nation-wide portrayals of an undoubtedly interesting-looking mechanism should have been accompanied by careful descriptions of "how it works" . . . can it be that the Layman really wants to know? Most amazing of all, says the Poor Printer (the title is one he invented for himself), the fact that nobody paid anybody a farthing to shovel facts about Perforated Ribbons, Matrix Cases, etc., upon the Common Reader! *Picture Post* took its own photograph, of course, of one of its printer's own machines, and described the composing processes with perfect *sang-froid,* without even consulting the manufacturers. One of the three greatest (if not *the* greatest) industrial House Organ of Great Britain, the famous I.C.I. Monthly, similarly took the Monotype Corporation by surprise with a brilliant article on Type History in which a certain machine was thrust into the limelight as having done great things for the current history of the subject. It would take too long to itemize all the other first-rate, and wholly spontaneous, articles on "Monotype" machines and faces which have reached us this winter through various general and "house" journals, though a word must be said for the latest number of *Lysaght Review* because of the excellence



of the half-tones and crisp captions of the illustrated feature, "Reproducing Words in Metal".

The motion pictures have done their part too. Everyone remembers *Cover to Cover*,* the film of the Book Trade, which spent some time on the Composition of a Book. Even if the magazine *Typography* did describe the composing machine concerned as a "teletypesetter", nobody minded—it was nobody's paid publicity stunt. Perhaps that Rotha film helped other producers to see the pictorial value of "Monotype" keyboards and casters. The latest "documentary" film we have seen is that called *The Accountant Goes to Press*, and two of the best sequences in a consistently interesting film-narrative are that in which the justifying cylinder of a "Monotype" Keyboard rule are seen leaping at incredible speed out of a Super Caster and being trimmed to even lengths.

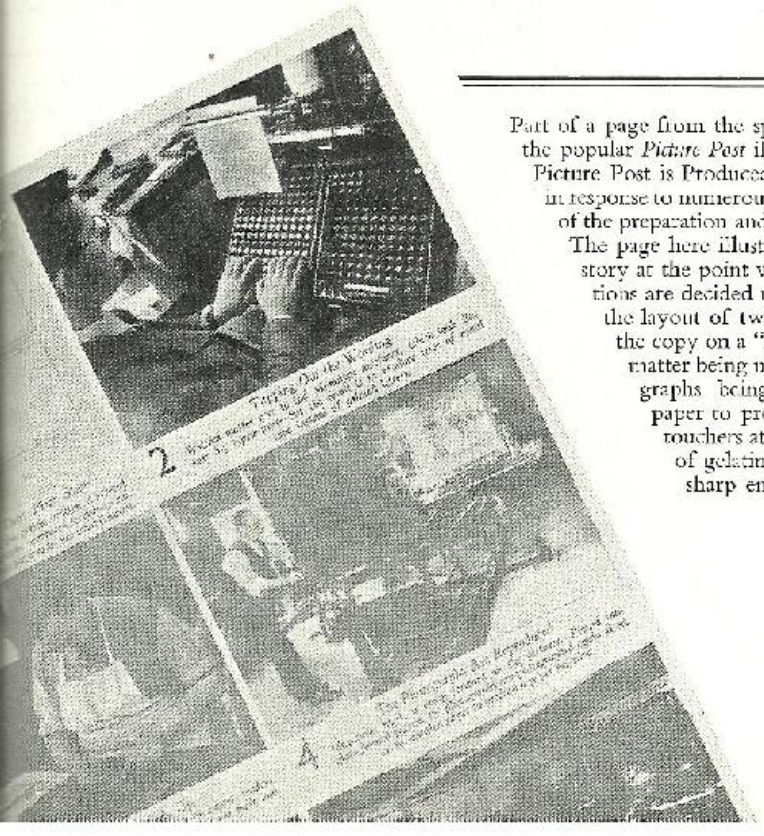
* Mr. Stanley Unwin, in the *Listener* of March 16th, used "stills" from this famous National Book Council film as illustrations to a wise and readable article on "How a Book is Made"—an article which will have reminded thousands of readers how much beside clever "layout" must go to the making of even the cheapest well-produced book.



First process of making a book: composing on a "Monotype" machine.
From the film "Cover to Cover" made by the National Book Council
BY COURTESY OF "THE LISTENER" AND THE N.B.C.

GLAMOROUS TO LAYFOLK . . .

It is all a great, great comfort to our well-meaning but somewhat absent-minded Publicity Department. To see, walking up hill to Fetter Lane, pages of priceless and (in most instances) unpurchasable Editorial Renown, is even more satisfactory than to have a Public Relations Counsel. And to the user of "Monotype" machines such trumpetings by layfolk also come as pleasant reading. " . . . *and all unseen, Romance brought up the* 8.15", said Kipling. There must be a few business men in the printing industry whose wistful glances back to the "Age of Caxton and Craftmanship" were intercepted by the sight of some youngster poring over a copy of *Modern Wonder* and learning how a "Monotype" mould worked. Glamour will live



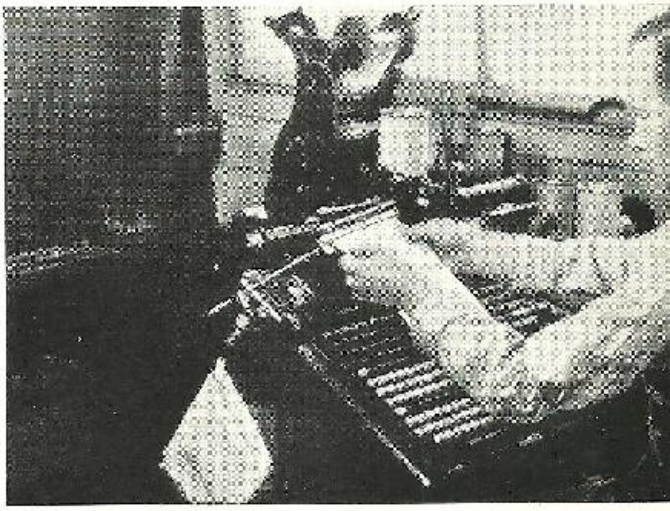
Part of a page from the special Christmas number of the popular *Picture Post* illustrating the article "How Picture Post is Produced." This article was written in response to numerous requests for the inner story of the preparation and production of this journal. The page here illustrated takes up the pictorial story at the point where the copy and illustrations are decided upon. On this page are seen the layout of two facing pages; tapping out the copy on a "Monotype" keyboard; type matter being made up on the stone; photographs being reproduced on sensitive paper to produce a paper negative; retouchers at work on the transparencies of gelatine to make the photographs sharp enough to reproduce clearly; and the pages being prepared for the cylinders of the photogravure presses showing how the pages are laid down on glass-covered tables. The caption to the second illustration reads "Tapping out the Wording: Written matter goes to the 'Monotype' machines, which look like very big typewriters—but the result is to produce rows of metal type instead of printed letters". The article gives, in the text, a description of the working of a "Monotype" keyboard and caster and describes how matter set on "Monotype" machines is used for making the composite photographic page for the photogravure printing cylinders.
Picture Post is set in Plantin 110.

on in the Printing Craft so long as the ink reeks and words multiply themselves *ad infinitum*: and even where a "Monotype" keyboard is as familiar as a typewriter (and as much a symbol of its century), the technician can find a certain refreshment in borrowing the layman's goggling eyes long enough to see the machine as if for the first time. It *is* a remarkable thing that while everyone is off in another corner of the room, printing types should be cast individually and form themselves into lines. It is perfectly incredible (until one knows the answers) that the word-space one sees being cast should be just precisely as thick as each word-space in that particular line needs to be, to drive out the line to the right measure. It is fantastic that the process of casting a type (which takes so long to explain in detail) can take place in as little time as a quarter of a second; it is almost as extraordinary in another way that engineers of the twentieth, or design-conscious, century, should have been able to confound the pre-war Artisticals who thought that beauty in typography—particularly as regards normal kerns— would be the price to be paid for mechanical speed and cheapness.

. . . BUT EVEN MORE TO TECHNICIANS!

But let us not imply, even in jest, that the printers have something to learn from the general public when it comes to realizing the "marvel" that is inherent in a "Monotype" caster and keyboard. Let us rather turn from the elementary write-ups in words of few syllables, to consider what may be a still more significant phenomenon, one having to do with the Trade Itself.

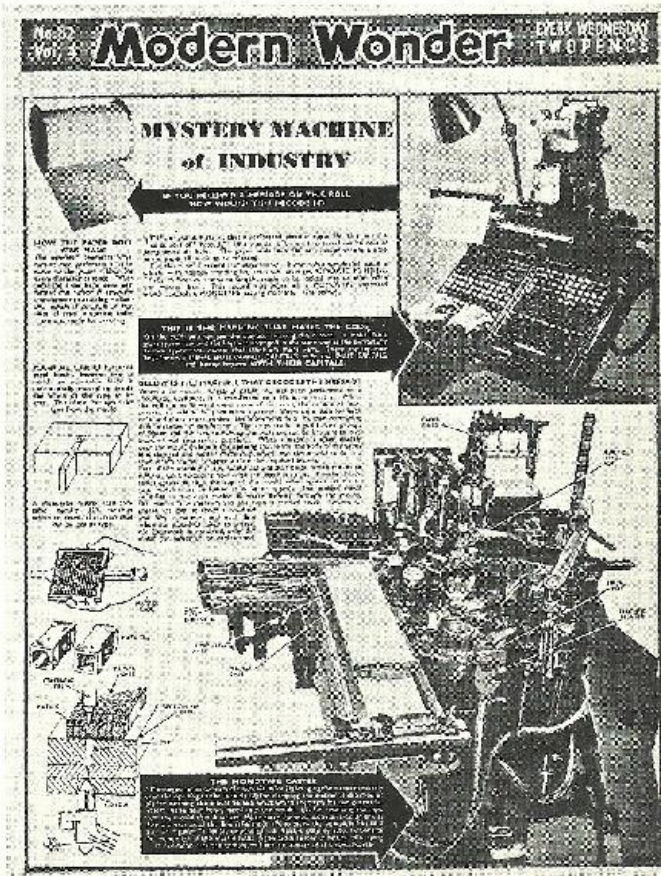
The Midlands Monotype Users' Association thought up the idea. And the more you consider it, the more excitingly significant does that idea become.



"STILL" FROM "*THE ACCOUNTANT* GOES TO PRESS"

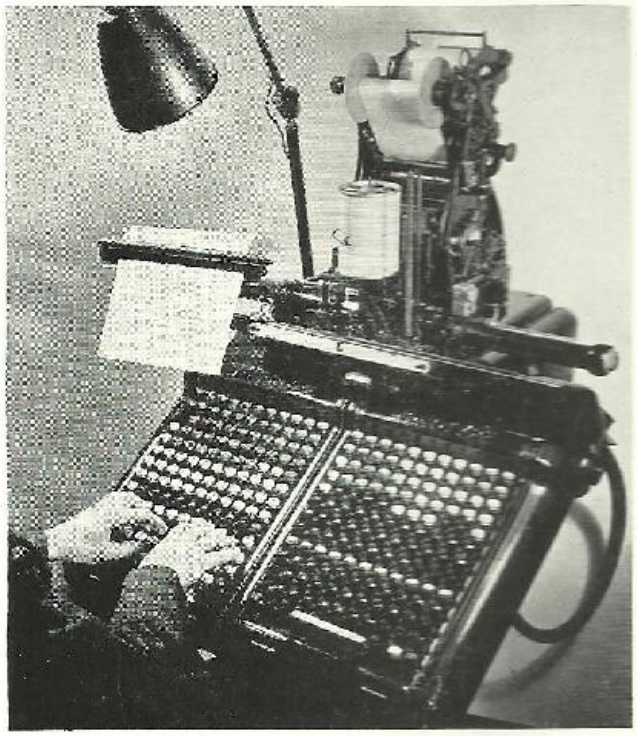
This well-composed film was shown to a select audience at the London office of Messrs. Gee & Co. (Publishers) Ltd., on March 3rd, and was accompanied by a lecture by Mr. Derek du Pré, Assistant Editor of *The Accountant*.

A clear account of the general principles of a "Monotype" machine was illustrated by a number of interesting sequences. The careful timing of all operations, editorial and mechanical, was revealed by the film, and such advantages to a famous journal as good proof-reading and clear letterpress were given their share of attention.



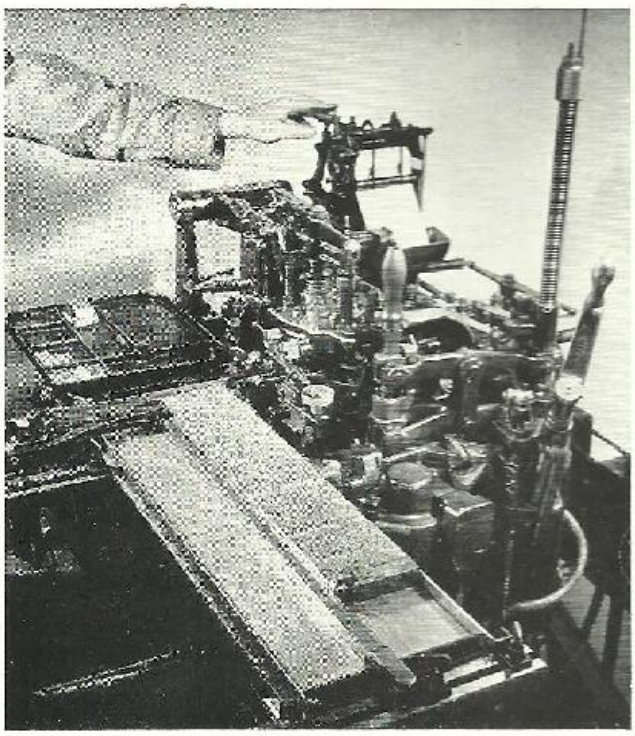
Hailing it as the "Mystery Machine of Industry", *Modern Wonder* devoted a whole page to the task of unravelling, for the benefit of its readers, the mysteries of "Monotype" machines. The result was a detailed yet compact story, told in a simple style, that exemplified each point with appropriate diagram or picture. The reader is shown how the keyboard makes "a message in code", and how this message is subsequently "decoded" by the caster. A "Monotype" caster (says the caption at the foot of the page) consists of mechanisms for (1) bringing the matrices exactly over the opening in the mould; (2) for clamping the matrix to the mould; (3) for opening the mould to the exact width required for the particular letter; (4) to pour liquid metal into the mould; (5) for receiving the type from the mould after it is cast; (6) to carry the separate types one by one as they are cast until the line is finished; (7) to carry the complete line to a galley; (8) for unwinding the ribbon, step by step, to control the movement of the matrix-case; (9) to cause spaces to be cast of varying thickness so that the completed lines are always of the same length.

The page was set in "Monotype" Gill Sans



Each swift tap of the key perforates the ribbon and when this ribbon is transferred to—

the Caster, it causes types to be cast and set in evenly spaced lines, at extremely rapid speed.



Think first, if you will, of what had to happen in the Trade in between 1815, when Printing was a handicraft describable in terms of hand-made paper, hand-cast type and hand presses, and 1899, when "compositors" had to be distinguished as "case hands" and hand-pressmen were relegated to "proofing". It was a hard, bitter epoch in which privilege was either fought for or lost; midway of it we hear Charles Dickens's voice raised on behalf of the unhappy victims of an industry that was trying to fly with one wing; with mechanized presses being fed by feverish handicraftsmen at the cases. Man against Master, the Rights of Man were wrangled out, with the ancient Apprenticing system buttressing the craft against disintegration. The Master becoming the Employer; the skilled craftsman learning to value his sheer weight of numbers even higher than his individual skill, and being forced into calling himself an Employee because the word Artist had been preempted by the salon-lapdogs who painted on canvas!

Say that all that breaking-down and "facing the stern facts" and general iron-izing of life was more or less characteristic of the true Machine Age, the nineteenth century. What then can we choose to show that that epoch has closed and that a new spirit is animating and *drawing together* the well regulated printing industry? Let us turn back to the Conference at Birmingham.

A NEW KIND OF CONFERENCE

Those Master Printers of the Midlands looked at Birmingham and its district and saw hundreds of modern printing offices. Not simply hundreds of employing printers, but a constellation of living units called *offices*. The word "officina" is one of the oldest terms in the ancient craft, and it has never yet referred merely to the "front office"!

In those offices, the Association could see (with the perceptive eye of the genuine Master rather than the mere "Employer") hundreds of men whose pride was in their skill at the operation of a particularly modern and responsive machine. They could see the work of the World translating itself there every day into new problems of tabular setting (the World wants its facts neatly laid out!) or the saving of casting revolutions (sales catalogues must hurry after the fashions) or other challenges that are fun enough when one has a perfectly responsive mechanical slave with

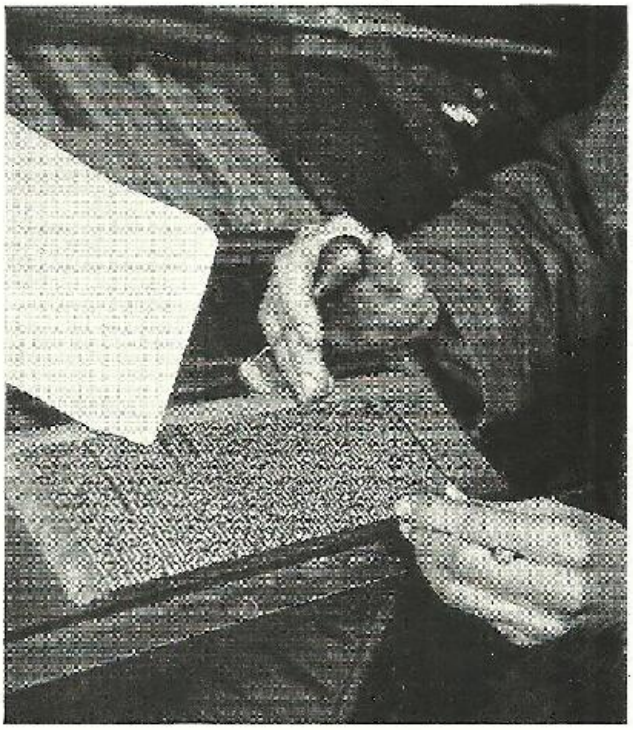
some new trick always up its sleeve.

So invitations went out, and on a Friday evening, at the end of a busy week of days, more than two hundred "Monotype" machine enthusiasts turned up to pick each other's brains and indulge in a little shop-talk.*

Mr. C. N. Fellows of The Monotype Corporation Limited delivered an address. Mr. Fellows has perhaps met and spoken with more of the august and celebrated personages of this country than any other keyboard operator, but he wasted no time on reminiscences of his work at National Exhibitions. He had to start off the discussion by bringing every hearer up-to-date on technical improvements to the machine—and there have been many since the shorter working week first loomed ahead and called for an increase of output p.h. Then he was able to go on and prove in the rest of his speech that after all the Younger Generation is not simply "taking for granted" what was a tremendous venture in the early 1900's. His unforced enthusiasm, as of an explorer who still sees blank spaces on the map, drew together what might have been two separate factions of the audience—those who remembered the old days, and those who did not.

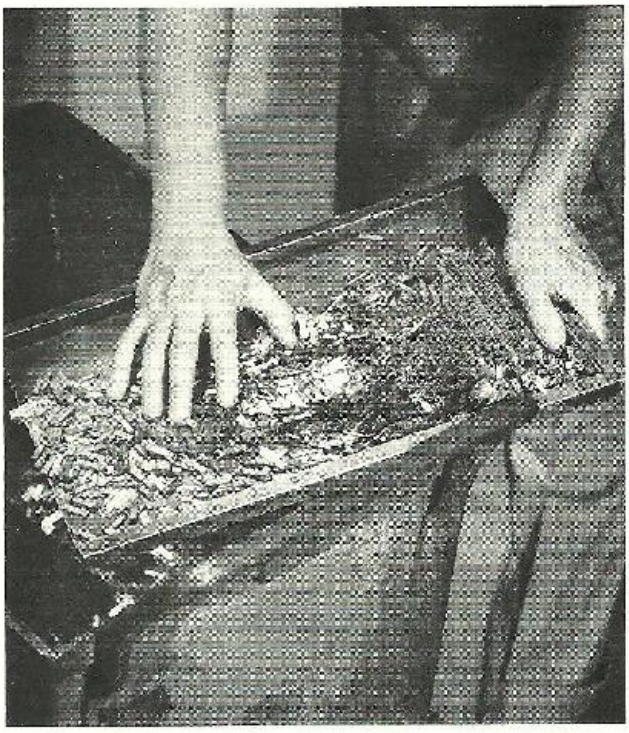
VEHEMENT SHOP-TALK

And then the questions broke forth, one after another covering this and that and the other facet of "Monotype" machine operation and maintenance. Each speaker seemed to know how to make a positive contribution to a symposium by fellow-experts, fellow enthusiasts. No time was wasted in such elementary queries as can be answered by the man in the next seat—"Why did this or that go wrong?" "What didn't we do right?" Suggestions were put forward and tested by the general reaction; new functions were touched upon; 23 experts were able to make distinct contributions before the hands of the clock had gone too far beyond closing time. The "biscuit and cup of tea" of the interval was not the particular "refreshment" for which these keen guests had turned up; it was the talk, the endless and vehement shop-talk of every "Monotype" machine addict, that made the evening seem worth while in prospect, and doubly so in



Correcting a price figure is easy and safe when single "Monotype" type is used . . . .

And such is the economy of production that the printer can afford to melt down his used type: no need to distribute it in with less worn letters.



* A report of this conference is given on p. 13.

"MONOTYPE" MACHINE USERS OF LONDON AND HOME COUNTIES

A WELL-ATTENDED PRELUDE TO THE ANNUAL MEETING OF THE LONDON AND HOME COUNTIES M.U.A.

were guests of The Monotype Corporation at the Annual Luncheon to customers held on January 26th at the Connaught Rooms, London. TOP TABLE: *(left to right)* Mr. H. F. Straker, Mr. H. G. Clarke, Sir W. R. Codling, C.B., C.V.O., C.B.E., Mr. B. Guy Harrison, Mr. F. H. Bissett, Mr. G. P. Reveirs (*President, L. & H. Counties, M.U.A.*), Mr. W. I. Burch (*Chairman*), Mr. A. J. Bonwick, Mr. R. A. Austen-Leigh, Sir J. Waterlow, Bart., Mr. M. McCorquodale, Mr. Metchim, Mr. E. Edkins, Mr. A. M. Shand, Mr. F. Russell Baylis, Mr. L. B. Mackay, Mr. F. W. Cheyney, Mr. A. Spring.

Members of the London and District Printers' Managers and Overseers Association at the Demonstration Rooms of The Monotype Corporation Ltd. on February 14th last.

The company included Messrs. N. S. Martin (*Gee & Co.*), A. E. Caller (*Hanbury Tomsett & Co., Ltd.*), A.S. Rose, E. Boddy (*C. & E. Layton*), W. H. Connah (*John Bale Sons & Curnow, Ltd.*), E. C. Reader (*Wm. Heinemann, Ltd.*, VICE-PRESIDENT), Walter H. Ansot, B. F. Thom (*National Children's Home, Harpenden*), L. M. Neull and W. Whattler (*Temple Press, Ltd.*), J. C. Turner (*Lawley Bros.*), J. H. Fisher and H. Blogg (*Spottiswoode, Ballantyne & Co.*), H. W. Gwinnell (*Straker Bros.*), T. G. Caine (*London Caledonian Press*), B. B. Simpson ("*The Contract Journal*" *Co., Ltd.*, SECRETARY), P. T. Cook (*G. A. Le Riviere*), A. Turley (*Edinburgh Press*), E. Hart (*N.A.L.F.I.*), J. H. Ayett (*Samson Clark*), J. A. Skinner (*F. W. Ball & Co., Ltd.*), G. C. Cook (*Coates Bros. & Co.*), T. S. Greader (*Hunt, Barnard & Co., Ltd.*), H. Y. G. Summerfield (*Gladding & Frost, Ltd.*).

retrospect, when an unprecedented experiment had turned into a wonderfully successful precedent for other similar "conferences".

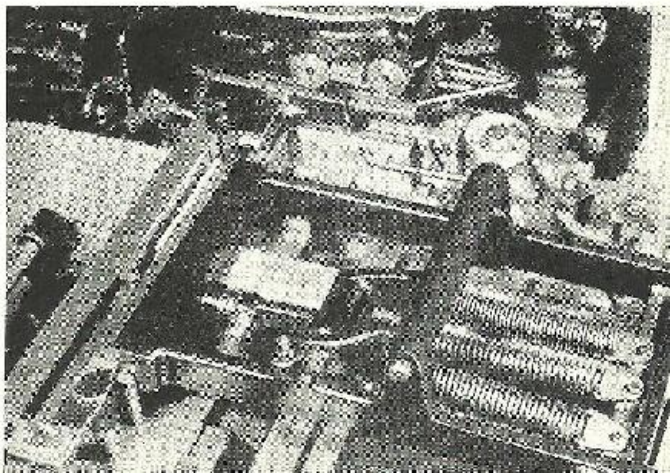
The fact is that "Monotype" machine operation can come as near to being a hobby as can any livelihood that offers endless challenges to the technically-curious mind. We shall never forget Mr. Leonard Hacking's expressed hope that somewhere beyond the Pearly Gates he would find the opportunity to sit down at a new "Monotype" keyboard and really discover its *limits* (if any) of technical ingenuity. Every operator who has once risen from the simplicities of straight matter to the higher flights of tabular setting, box-headings, etc., will recognize the sincerity behind the jest. And now that an operator has spontaneously put forward the idea of a sort of Hobby Club for technical explorers of the keyboard and caster (see p. 28) we should not be at all surprised if the idea spread. Judging from the number of applicants for the "refresher courses" offered at the Monotype School in Fetter Lane, there would be no difficulty in securing members for a purely technical-social club of this order.

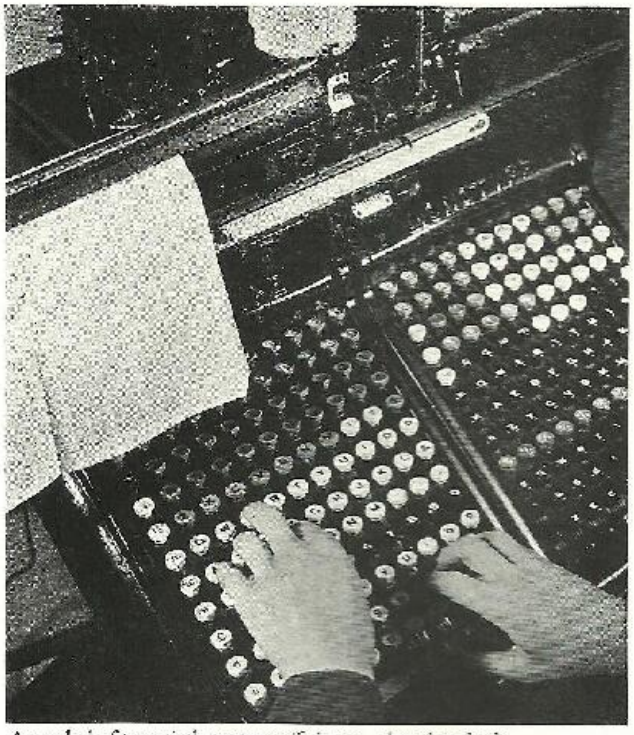
The executive printer's interest in technique is more dispassionate, but finds its own spontaneous expression. We have mentioned the Midland Monotype Users Association's progressive activity; we may also refer to the success of the Annual Luncheon given at the Connaught Rooms this winter by the Monotype Corporation to its customers in London and the Home Counties, as a prelude to the Annual Meeting of the London and Home Counties M.U.A. Non-member guests remained, by invitation of the Association, to join in the interested discussion on technical developments which followed the official business. We reproduce a photograph of the unusually large gathering on this occasion.

We also include a pictorial souvenir of the recent visit of the London and District Printers' Managers and Overseers Association to the Demonstration Rooms of The Monotype Corporation where a double row of casters could be seen at work, each on "something new".

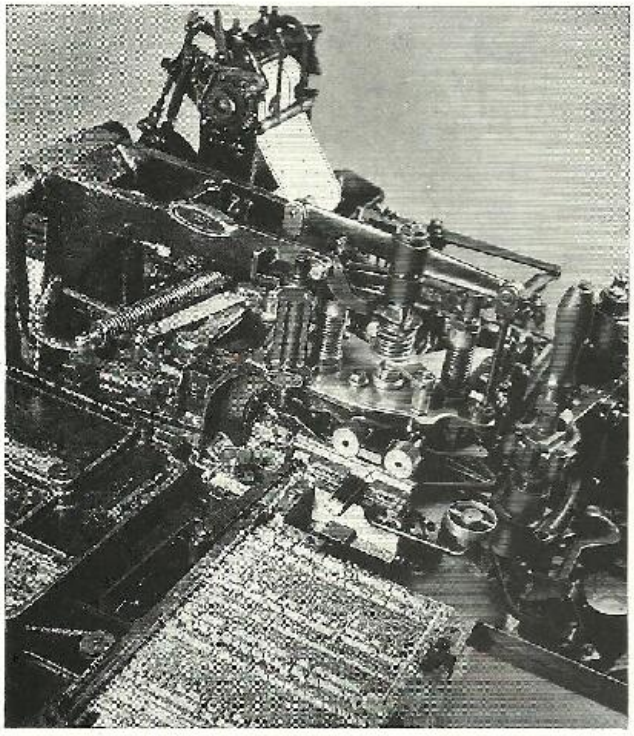
One caster was delivering justified lines of pointed Hebrew on to a special galley devised for that right-to-left-reading language;* another was showing how the new Quadding and Centring Attachment now permits two automatic centrings within the total measure; another was delivering a catalogue setting in a combination of Gill

* Device for setting Hebrew





A symbol of twentieth-century efficiency—these hundreds of glittering keys. Note "universal" arrangement of letters for reducing fatigue at high speed.



You can see the newly-cast type marching out to set a modern Railway Time-Table in Gill Sans.

262-275 with 3-line price figures from the same matrix-case and so on down the line. Galley-racks in interesting composition, and glistening cases of Super Caster and other products, attracted admiring comment from the visitors.

HEALTHY CURIOSITY

These are details and instances, within and without the Craft, of a general intensification of interest in a particularly modern composing machine. This in turn seems to be part of a still more general stir of interest, which certainly cannot be dismissed as "machine-worship". People who have stopped worrying about the existence of machines (as they once had to stop worrying over the supersession of flint knives by metal ones*) are likely to look with calm but naturally curious eyes upon every latest *extension of human skill through human ingenuity* in the field of mechanical invention. They can afford to be healthily curious; it has never occurred to them to think of a machine as a "mystery" threatening men's livelihoods. They can afford to perceive the differences between one type of machine and another, and correlate them as every typographer does, with different types of human ambition. Frankenstein and his metal Monster were thought of a century ago, when there really *was* machine-worship, Human Sacrifices and all. To-day we call up every machine that can serve as defender of the common cause.

The man who used to demand "fine" printing, all done lovingly by hand, has seen in the past few years such attacks upon the Liberty of the Press as remind Englishmen of the Star Chamber days of the seventeenth century. He has recalled, with a start, what the term "private press" meant here in those days—and what happened to the arts of letter-cutting and printing when the artisans concerned lost heart under the shadow of Censorship. Such a man has seen how desperately hard it is for Cold Print to hold its own against Hot "Air". Is he likely to remain incurious about such matters as "ems per hour"? Do technicalities about "single-type correction" mean nothing to those who realize what the Proof-reader symbolizes in the modern world?

TECHNICALITIES V. "PRICE-FIGHTING"

The printers know the answer. They know it most surely, perhaps, during that moment of "rebound" from the depressing effect of conversation with an Ugly Customer—the man to whom a printer is little more than a tradesman to be kept waiting for his order and to be told his price. Many a master printer has come back from a "price-fighting" interview on leaden feet. That is the moment when a spontaneous "thank you" from a decent customer can do the most good; when the knowledge that interested laymen are "learning about typography" can

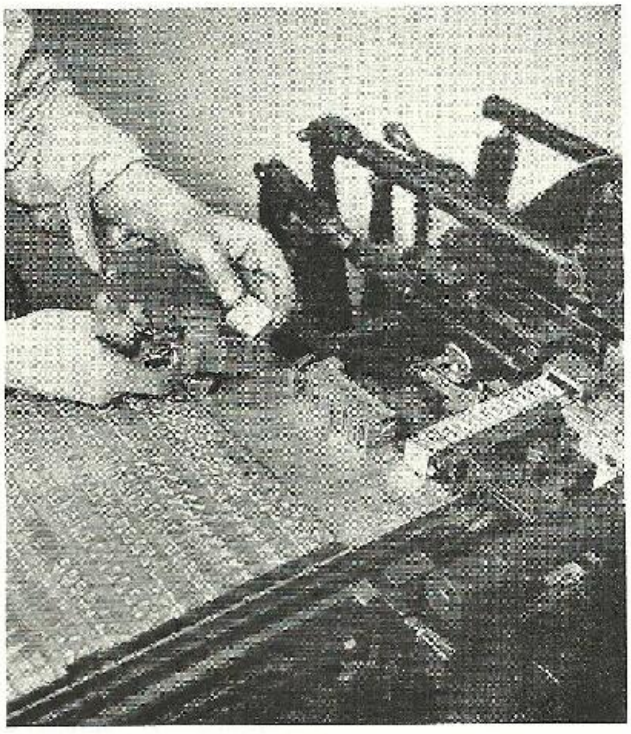
* And that must have worried them. Sacrificial knives remained flint knives, and the iron horseshoe is still a protective charm against the spirits for whose sake the flint knives were fleshed.

come as reassuring news. For it means that with modern equipment and desirable type faces there will be no need to have any further dealings with the Ugher Customers. True, the Handsomer Substitutes will utter a certain amount of nonsense as a result of studying a complicated technique without thorough grounding. But it will be the sort of nonsense that an intelligent expert can handle and reply to—not the poisonous sort of nonsense that a really determined price-fighter resorts to when he imagines he is dealing with a spiritless price-cutter.

So it can do no harm, it can only do good, to let the laymen hear what sort of a machine it is that spells out metal types in such an uncanny way. The *Picture Book of "Monotype" Machines* is now being revised for its third large edition—made necessary by the desire of so many printers to satisfy the very curiosity that this article refers to. This time the accompanying text will give some readable details that will at least make the operations seem credible, and not simply those of Magic. A generation to whom publishers could not sell fairy-tales has grown up with its own ideas of what is exciting and interesting. It wants to see the Wheels go Round.

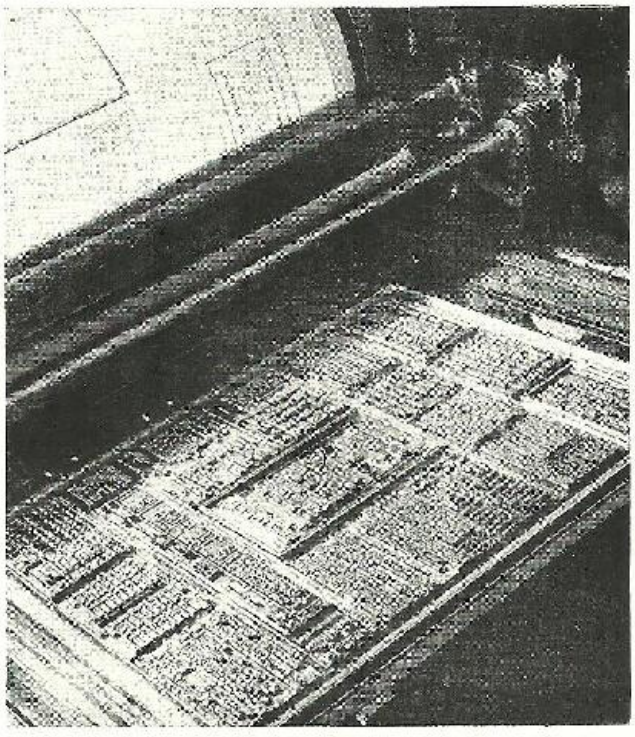
And the printing craftsmen of that generation, whose skill is concerned with *making* the Wheels go Round, have grown up in a printing epoch in which the mere wrenching transition from Hand to Machine had given way to confident exploration, and steady mechanical development. It is true enough that intelligent operators tend to "mother" their machines, and to feel upset when some new device or attachment is not quickly installed by a conservative master printer. But there it is: though Skill has its money wage, Pride-in-Skill exacts a nobler recognition. The arguments may safely rage, so long as technical knowledge on the one hand, and knowledge of markets on the other, each commands the respect it deserves.

Keyboards at the Kynoch Press—one of the illustrations to a brilliant article on "Type" by Michael Clapham in the January I.C.I. Magazine—now re-styled in "Monotype" Times 327.



He is showing you a 72-pt. matrix and the mould in which these giant types were cast on a Super Caster.

Below: all-metal furniture and block-mounting material make this a twentieth-century forme of type.



IT ADDED UP TO SUCCESS

A "ONE MAN AND A BOY" SHOP: THE SECRET OF SUCCESS IN A FEW YEARS HAD "ADDED UP" TO A PROSPEROUS, EXPANDING OFFICE

If you were a Tea Planter in India, how would you react to the news that you had inherited the ownership of a very small and impoverished little printing shop in a not very large town in England? Would you go on with your own job—or do what Mr. X did, and joyfully accept the challenge?

Mr. X sailed for England, taking stock of his special assets as a future Master Printer. Financial assets—none to speak of. Technical knowledge—nothing to boast about. *Understanding of human nature*, and a real respect for the good in human nature—*ample*, for the great need there was to be. And, to make the best of those Primary Assets, confidence and ambition.

It would have made any heart sink to enter that little office for the first time. A clanking old platen; a few cases of the sort of type that belongs in a museum; one man and a boy to do the work, and a dwindling list of querulous, price-wrangling Old Customers. No new customers—not for some time past . . .

The "rescue" had come in the very nick of time, and Mr. X might very well have lost his sense of perspective and his first brave ambitions during the anxious days of personal calls for such business as the shop could handle . . . of facing up to the price-wranglers . . . of watching the "back-door" semi-amateur printers take away all those nice little letterhead and programme jobs that had formerly kept the firm going.

Honour to Mr. X, then, for nailing his flag to the mast, and remembering every ambition whole. That vision enabled him to select his craftsmen with the true master's eye—a respectful eye for genuine craftsmanly ambition and interest in the job. Mr. X was daring to plan ahead.

"So," says the cynic at this point, "Mr. X soon came to the end of his tether." Well, every tether has two ends. Mr. X was going *forward*—out of debt and into some very promising markets—when he found that he was tethered at a given limit-of-success. Until he could instal a composing machine, he would have to keep "straining at the leash" while all the best orders passed by just out of profitable reach.

Yet he could see only a doubtful one-and-a-half days a week of work for a "Monotype" composing machine. He had set his ambition on that machine, because, having fretted at his lack of ability to handle this-and-that job, he wanted to be free from any such frets for the rest of his career.

So the keyboard and caster went in . . . and at this point it ought to be mentioned that the body face acquired with the machine was not Old Style No. 2 nor was it Modern No. 1. It was that Distinguished Character, Series 169 and its related bold—"Monotype" Baskerville. No wonder the customers saw even more than the improvement of "new type for every job". They saw definitely handsome pages . . . and they talked generously about them. And the display casting attachment gave them a range of exciting new publicity faces to talk about.

Within a year the "doubtful $1\frac{1}{2}$ days" had become $5\frac{1}{2}$ days a week. Now, a few years later, Mr. X is struggling with overtime because he must not put in his second caster until his trebly-expanded machine room is ready.

Mr. X is a real printer; a few readers of this journal will be able to identify him from the details we have given. We think he would have made a success of Tea Planting, too. Because he now employs 15 Englishmen, we are glad that he came home to that moribund office when he did.

THE BIRMINGHAM CONFERENCE

Few could have prophesied the stimulating success which crowned a recent experiment made by the owners and operators of "Monotype" machines in the Midland Counties.

It consisted of holding a Conference of "Monotype" keyboard and caster operators as guests of The Monotype Users' Association for the Midland Counties of England, on Friday evening, March 10th. No fewer than 200 guests arrived at the Café in Birmingham which was the scene of the gathering; and from the very beginning all doubts were dispelled as to the likelihood of getting busy men to foregather at the end of a busy week to talk shop.

The object of the Conference was crisply set forward by Mr. F. Russell Baylis, Chairman of the National Committee of Monotype Users, who, in an informal speech of welcome said "We are not here merely to listen to a lecture; we are here to pool our knowledge, to give and to take, to learn and to teach. There are no pupils, no teachers, everyone is equally welcome to make his contribution."

FITTING ONESELF FOR THE JOB

This theme was briefly developed by the Secretary of the Association, Mr. D. R. King. "Subconsciously, if not consciously, we realize," he said, "that to-day almost everybody and everything in our social and industrial economy are being fitted snugly or otherwise into place". The parts of a machine, he continued, were fitted into its frame; machinery was fitted into the building; men were being fitted to their jobs. There were two ways in which this fitting could take place. One could be fitted into one's job, or one could, by taking thought, fit oneself for the job. The first often led to unnecessary friction, the latter to a spirit of co-operation, self-discipline and higher development. It seemed strange, but true also, that few of us in our search for knowledge asked ourselves what qualities were needed for this or that job. We simply occupied the position without realizing that we could develop latent ability and fit ourselves to the task. That, it seemed to many of us, was a distinguishing mark of the higher type of manhood, That was the purpose of this Conference: to make life and work happier, less arduous, less wearing, less irritating, because of this capacity to fit, rather than be fitted, to the positions we hold.

Then followed a talk on the care and operation of "Monotype" keyboards and casters by Mr. C. N. Fellows, a member of the technical staff of The Monotype Corporation Ltd., and a representative of the "younger generation" of expert keyboard operators. In speaking of the necessity to plan and systematize work so as to save needless effort, Mr. Fellows itemized and described a number of time- and labour-saving devices available for "Monotype" machines: explained the use of a chart for calculating the space-allowance for initial letters; and commented on the Extended Matrix-case Attachment for catalogue work, using special layouts to include 3-line figures; layout charts for catalogue setting, and block-mounting on quads. The address ended with some practical remarks on the maintenance of machines at concert pitch.

ENTHUSIASTIC DISCUSSION

The "sensation" of the evening was, however, the general discussion which followed. By exceeding the time allotted it was possible to get in no fewer than twenty-three instructive questions from members of the audience and as many supplementary queries on detail. Experts of the Monotype Corporation who were present noted particularly the eager and craftsmanly enthusiasm which underlay the discussion and made all the new technical developments of the past two years matters of keen interest.

At last the Chairman had to break off discussions which seemed still in full flood. Mr. P. T. Austin, President of the Midland Alliance, proposed an omnibus vote of thanks to Mr. Fellows for his address, to The Monotype Corporation Ltd. for co-operating with the effort and to the Chairman. "This meeting," said Mr. Austin, "has been a revelation. Not only have we had a splendid address, but the questioning and the discussion from the body of the hall would do credit to any assembly." Mr. Parkes, a keyboard operator, seconded the motion.

Replying on behalf of the Monotype Corporation, Mr. E. Quick dwelt on the significance of this occasion in the light of his memories of the pioneer days of "Monotype" machines, and extended the Corporation's welcome to a possible future Conference of the same nature. Judging from the remarks which could be heard as the audience broke up, there should be little difficulty in making a precedent of this hitherto unprecedented meeting on common ground of some of the most representative masters and skilled craftsmen of the industrial Midlands.

"QUADLINE" CHARTS

THE old-fashioned "pica squared" layout chart told the designer of the page how many picas deep or wide he had marked a "box", or a block, or any other interruption to his standard column. But if that column was to be set in 10 point, he still had to reckon how many *ten-point lines deep* the shape actually came to. And in some cases he also wanted to know how many ems or ems of 10 *point* a given space would be "setwise."

So naturally he began wanting a different chart for each body size, when laying-out such things as illustrated catalogues and periodicals. His endeavour was to help the keyboard operator to avoid costly "over-running"; so he began thinking of a given space as consisting, not of so many picas, but of so many *em quads of a given fount*.

But the operator, with a faint grin, pointed out that since "Monotype" machines came in with the twentieth century, the phrase "em quad" no longer necessarily means what it meant in the nineteenth century. It is not necessarily a square (say) 12 points wide for 12-point, or (say) one that is 10 points setwise if it is 10 point bodywise.

Baskerville 12 point happens to be "12-set". But Poliphilus 12 point, a narrow face, is only "10¾-set". Its em, or 18-unit space, measures 10¾ points setwise and all the characters and word-spaces in the fount are in just proportion to that width. The narrower letters are narrower by *eighteenths* ("units") of the designated "set"—in this case 10¾ points.

And Rockwell, a wide face because of its great x-height, is 12⅛-set in 12 point. Thus a line of 20 ems ("quads") of 12 point Poliphilus will measure just under 18 picas, whereas 20 ems of 12 point Rockwell will measure nearly 21 picas.

So to-day the layout man who is dealing with a considerable amount of solid matter interspersed with blocks, "panels", "boxes" etc., has reason to appreciate the help of a "quadlined" chart. It does not tell him with any accuracy how many characters or words will go in any given line—though if he knows the particular fount well, he can learn to "write in" the copy for narrow price-panels, captions, etc., with remarkable accuracy. But the real reason for such charts is that both he and the operator want to allow whole areas—often of irregular shape—to be filled in with low or perhaps shoulder-high quads *while tapping*, thus eliminating over-set and difficult re-justification (particularly around warped wooden block-mounts).

The essential things to remember are that (a) different founts of the same point size may have ems (quads) of different widths; (b) that founts of different body sizes may happen to have the same width (though not, of course, depth) of em (*cf.* an 11 point, 10½-*set* and a 9 point, 10½-*set*); (c) that a fount can be cast on a larger body than the matrices designate, to obviate leading. Thus the 18-unit em or quad of an eleven-point which happens to be 11½-set will measure 12 points deep if the fount is cast "on 12", and thus as an actual metal quad it will have precisely the same dimensions as the quad of an 11½-set 12-point cast "on its own body".

With these facts in mind it is easy to see why we do not attempt to print and issue layout charts. To the modern mind there is nothing in between the blank-paper-lettered-over of the normal display lay-out, and the chart which is precisely accurate for whatever composition size, of whatever set, is actually going to be used.

Every compiler of ILLUSTRATED CATALOGUES feels the need of "quadline" charts the moment he has settled upon his chief body fount. He ought really to order them from his printer and pay for them. But the cost of manufacture is so slight that printers will sometimes prefer to use such charts as Sales Aids. Suppose a printer has acquired the Matrix-case combination No. 2482 which enables him to set 6 alphabets of 8-point Gill Sans in with large lining price figures without dropping those figures in by hand. Naturally he has a definite advantage when it comes to quoting for a catalogue in 8 point Gill Sans, which is ideal for sales catalogues. He wants to boast of that extra facility, call attention to it. So he sends each of his potential customers one sheet of a marvellously tempting layout chart. "A pad of such chart", he might say, "goes with the contract—and see what time and calculation it would save you!"

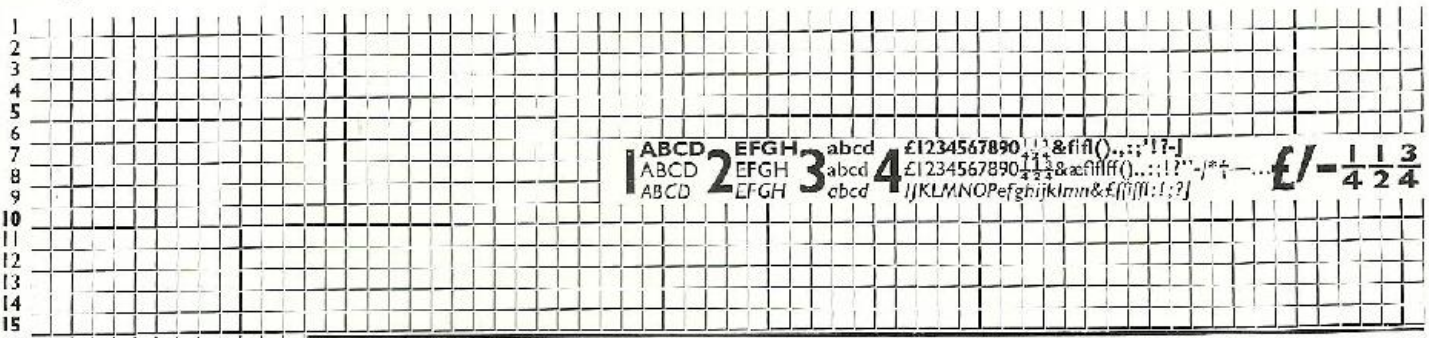
On the other hand, a periodical editor may develop a craving for layout charts of the main body fount of his paper—say nine-on-ten Plantin 110 double-column. If so, he ought to order them literally "made-to-measure" and pay for them as a job from his printer. In any case, the Monotype Corporation does not intend to issue layout charts, but to indicate how such charts might be compiled.

SPECIMEN OF S6046 _|, S6047 _|, S6048 _|, S6049 _|, USED TO MAKE "QUADS-OF-THE-SET"

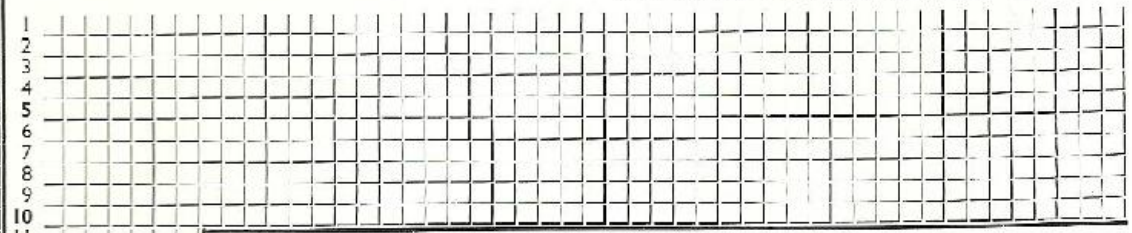
[Here shown in 8 pt. The Series is also available in 6 pt.]

LAYOUT CHARTS FOR DIFFERENT SIZES

1: QUADLINES OF AN 8 SET EIGHT POINT: e.g. 8 pt. of Gill 262, 275, etc.; Garamond 156; Mod. No. 1; O.S. 151; Perpetua 239

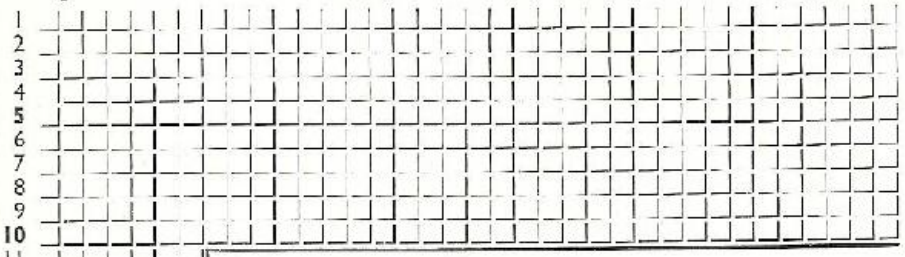


BELOW: QUADLINES OF AN 8½ SET EIGHT-POINT: e.g. 8 pts. of Rockwell, Plantin and Imprint with Bolds, etc.; O.S. No. 2, etc.

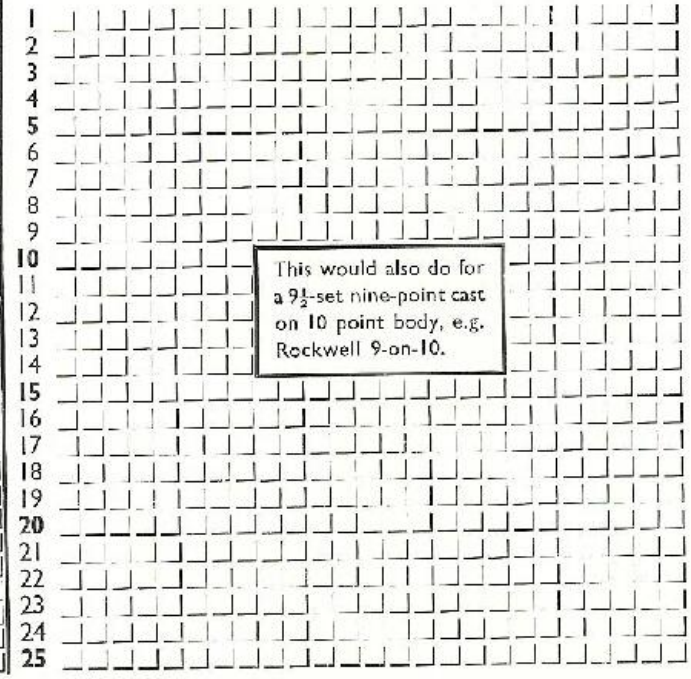


FOR A NINE SET NINE POINT, such as the 9 pts. of Gill; Times 327; Baskerville 169; Ital. O.S. 108; Walbaum.

[or a 9-SET EIGHT-ON-NINE]

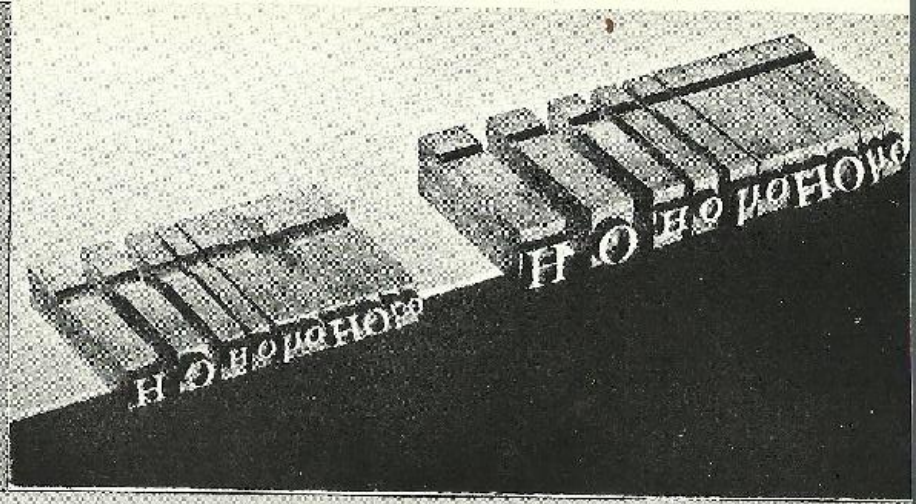


FOR A 9½ SET TEN POINT, such as the 10 pts. of Bodoni 135 & 260; Bold 53; Garamond 156 & 201; Gill 262, 275 etc.; Imprint 101, 410; O.S. 151; Plantin 110, 194, 236.



This would also do for a 9½-set nine-point cast on 10 point body, e.g. Rockwell 9-on-10.

ABCDEFGH
IJKLMNQRS
TUWXYZ



abcdefghijk
lmnopqrst
uvwxyz

BFPQu
KLXYS
DHRO
GAEVJ
CZ&T
NWIM

ffffiffl
pqgwxyz
dimfkbh
cjltesarvw
12345!?
6789no

ad gli deroſi littori el doloroſo & ingrato deceſſio del natante Leandro caldamente ſoſpiraua. Io Poliphilo ſopra el lectulo mio iacendo, opportuno anuico del corpo laſſo, niuno nella conſcia camera familiare eſſendo, ſe non la mia chara lucubratrice Agrypnia, Laquale poſcia che meco hebbe facto uario colloquio conſolanteme, paleſe hauendoli facta la cauſa & lorigine degli mei profundi ſoſpiri, pietoſamente ſuadeuami al

SOME FAMOUS "ORIGINALS": *Mr. Eric Gill's drawings for* GILL SANS; *Mr. Bruce Rogers' drawings for* CENTAUR; *type cast from John Bell's original matrices by Messrs. Stephenson, Blake and Co. Ltd. for* "MONOTYPE" BELL; *part of page from Colonna's* Hypnerotomachia Poliphili *for* "MONOTYPE"

L·N·E·R MONOTYPE GILL SANS SERIF

Specimen of characters, figures, &c., standardised for the L.N.E.R time tables. All types used must conform in outline and weight with these specimens.

5 Point Medium

ABCDEFGHIJKLMNOPQRSTUVWXYZ&
abcdefghijklmnopqrstuvwxyz
1234567890

5 Point Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

5 Point Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

6 Point Medium

ABCDEFGHIJKLMNOPQRSTUVWXYZ&
abcdefghijklmnopqrstuvwxyz fffffffi
1234567890

6 Point Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ&
abcdefghijklmnopqrstuvwxyz fffffi
1234567890

6 Point Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

10 Point Medium

ABCDEFGHIJKLMNOPQRSTUVWXYZ&
abcdefghijklmnopqrstuvwxyz fffffffffl
1234567890

10 Point Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ&
abcdefghijklmnopqrstuvwxyz fffffi
1234567890

10 Point Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

18 Point Medium

ABCDEFGHIJKLMNOPQRSTUVWXYZ&
abcdefghijklmnopqrstuvwxyz fffflffiffl 1234567890£ $\frac{1}{4}\frac{1}{2}\frac{3}{4}$.,-:;'!?...—()[]'

18 Point Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZÆŒ&
abcdefghijklmnopqrstuvwxyzæœ fffflffiffl 1234567890£ $\frac{1}{4}\frac{1}{2}\frac{3}{4}$ **.,-:;!?...—()[]**

36 Point Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ&
abcdefghijklmnopqrstuvwxyz fffflffiffl ÆŒ
1234567890£ $\frac{1}{4}\frac{1}{2}\frac{3}{4}$ **.,'-:;!?—()[]'**

Reduce   Reduce

Table 9—*continued.*   NORWICH, ELY, CAMBRIDGE, BISHOP'S STORTFORD AND LONDON.

WEEKDAYS—*continued.*

Station		J p.m.	SX p.m.	N p.m.	p.m. (Z)	p.m.	p.m.	SO p.m.	TO p.m.	SO p.m.	p.m.	p.m.
Yarmouth (Vauxhall) (Table 68)	dep.	..	..	..	..	6 ..	..	8 20	..	..	9 30	10 10
Lowestoft (Central)	"	..	..	..	..	6 35	..	7 14	..	..	9 10	..
Cromer (Table 66)	"	..	..	..	..	5 30	..	7 24	..	..	9 50	..
NORWICH (Thorpe) C	dep.	..	..	..	..	7 40	..	9 15	..	..	10 25	11 4
Trowse	"	..	..	..	..	7 44	..	↓	..	..	↓	↓
Hethersett	"	..	..	..	..	7 55	..	9 26	..	..	↓	↓
Wymondham	arr.	..	..	..	..	8 3	..	9 33	..	..	10 43	11 20
Wymondham	dep.	..	..	..	..	8 4	..	9 34	..	..	10 49	11 22
Spooner Row	"	..	..	..	..	8 10	..	To Dereham.	..	..	↓	↓
Attleborough	"	..	..	..	..	8 17	..		..	..	11 2	11 31
Eccles Road	"	..	..	..	..	8 24	..		..	..	11 10	↓
Harling Road	"	..	..	..	..	8 31	..		..	..	11 20	↓
Thetford	"	..	..	..	..	8D50	..		..	..	11 35	11 53
Brandon	"	..	..	..	..	9 3	..		..	..	11 50	12 4
Lakenheath	"	..	..	..	..	9 12	..		..	..	M	↓
Shippea Hill	"	..	..	..	..	↓	..		..	..	↓	↓
Ely	arr.	..	..	..	..	9 29	..	..	..	..	12 12	12 23
Hunstanton (Table 61)	dep.	7 6	..	..	..	..	6 25	..	..	..	..	9 10
King's Lynn	"	7 48	5R37	..	..	..	7 6	..	..	..	..	10 30
Ely	arr.	8 26	7R1[illegible]	..	..	..	..	..	..	..	..	11 51
Ely	dep.	8 32	7 30	..	..	9 34	..	..	10 35	10 55	..	12 33
Waterbeach	"	↓	7 43	..	..	9 46	..	..	11 10	11 10	..	↓
Cambridge	arr.	8 51	7 51	..	..	9 54	..	..	11 20	11 20	..	12 51
Cambridge B	dep.	9 2	..	8 30	9 12	..	10 18	..	..	11 25	..	E
Shelford	"	↓	..	↓	9 20	..	GARDEN CITIES AND CAMBRIDGE BUFFET EXPRESS.	..	..	11 32	..	↓
Whittlesford	"	↓	..	↓	9 27	..		..	..	11 38	..	↓
Great Chesterford	"	↓	..	↓	9 34	..		..	..	11 44	..	↓
Audley End	"	9 2[illegible]	..	↓	9 45	..		..	..	..	..	1 22
Newport (Essex)	"	↓	..	↓	9 49	..		..	..	..	..	↓
Elsenham	"	↓	..	↓	9 57	..		..	..	..	..	↓
Stansted	"	↓	..	↓	10 2	..		..	..	..	..	↓
Bishop's Stortford	arr.	9 38	..	↓	10 7	..		..	..	..	..	1 37
Bishop's Stortford	dep.	9 43	..	Buffet Car	10 9	..		..	..	..	..	1 39
Sawbridgeworth	"	↓	..	↓	10 16	..		..	..	..	..	1 46
Harlow	"	↓	..	↓	10 22	..		..	..	..	..	1 52
Burnt Mill	"	↓	..	↓	10 27	..		..	..	..	..	↓
Roydon	"	↓	..	↓	10 33	..		..	..	..	..	↓
Broxbourne and Hoddesdon	arr.	↓	..	↓	10 38	..		..	..	..	..	2 4
Broxbourne and Hoddesdon	dep.	↓	..	↓	10 45	..		..	..	..	..	2 7
Cheshunt A	arr.	↓	..	↓	↓	..		..	..	..	..	↓
Waltham Cross and Abbey	"	↓	..	↓	10 48	..		..	..	..	..	2 15
Enfield Lock for Enfield Wash	"	↓	..	↓	↓	..		..	..	..	..	↓
Brimsdown for Enfield Highway	"	↓	..	↓	↓	..		..	..	..	..	↓
Ponder's End	"	↓	..	↓	10 54	..		..	..	..	..	↓
Angel Road	"	↓	..	↓	↓	..		..	..	..	..	↓
Northumberland Park	"	↓	..	↓	↓	..		..	..	..	..	↓
Tottenham	"	↓	..	↓	11 2	..		..	..	..	..	↓
Stratford	"	↓	..	↓	↓	..		..	..	..	..	↓
Hackney Downs	"	↓	..	↓	11 11	..		..	..	..	..	↓
LONDON King's Cross		..	..	..	..	..	11 24	..	..	..	..	..
LONDON Liverpool St.		10 2[illegible]	..	9 25	11 19	..	..	..	..	..	..	2 40

SUNDAYS

Station		a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	(Y)	W p.m.	p.m.	p.m.	p.m.	T	R p.m.	p.m.	p.m.	p.m.	p.m.	p.m.
Yarmouth (Vauxhall)	dep.	..	..	..	..	..	..	..	[illegible]	..	..	..	..	..	1 1[illegible]	..	..	..	..	..
Lowestoft (Central)	"	..	..	..	..	..	..	..	[illegible]	..	..	..	..	..	1 21	..	..	..	..	..
Cromer	"	..	..	..	..	..	..	..	[illegible]	..	..	..	..	..	[illegible]	..	..	..	..	..
NORWICH (Thorpe)	dep.	..	..	..	..	..	..	..	9 42	10 11	..	..	..	12 50	2 50	..	..	..	..	..
Trowse	"	..	..	..	..	..	..	..	↓	↓	..	..	..	↓	↓	..	..	..	..	..
Hethersett	"	..	..	..	..	..	..	..	↓	10 22	..	..	..	1 1	3 1	..	..	..	..	..
Wymondham	arr.	..	..	..	..	..	..	..	9 59	10 29	..	..	..	1 8	3 11	..	..	..	..	..
Wymondham	dep.	..	..	..	..	..	..	..	10 0	10 31	..	..	..	1 9	3 13	..	..	..	..	..
Spooner Row	"	..	..	..	..	..	..	..	↓	To Dereham.	..	..	..	To Dereham.	3 19	..	..	..	..	..
Attleborough	"	..	..	..	..	..	..	..	10 5		..	..	..		3 27	..	..	..	..	..
Eccles Road	"	..	..	..	..	..	..	..	↓		..	..	..		3 34	..	..	..	..	..
Harling Road	"	..	..	..	..	..	..	..	↓		..	..	..		3 42	..	..	..	..	..
Thetford	"	..	..	..	..	..	..	..	10 30		..	..	..		3 56	..	..	..	..	..
Brandon	"	..	..	..	..	..	..	..	10 41		..	..	..		4 8	..	..	..	From Doncaster.	..
Lakenheath	"	..	..	..	..	..	..	..	↓		..	..	..		4 16	..	..	..		..
Shippea Hill	"	..	..	..	..	..	..	..	↓		..	..	..		4 26	..	..	..		..
Ely	arr.	..	..	..	..	..	..	..	11 0	..	..	..	..	..	4 38	..	..	..		..
Hunstanton	dep.	..	..	..	..	..	..	..	9U37	..	..	..	..	..	3 7	..	..	..		..
King's Lynn	"	..	..	..	..	..	..	..	10 13	..	..	..	..	..	3 47	..	..	..		..
Ely	arr.	..	..	..	..	..	..	..	10 55	..	..	..	..	..	4 34	..	..	..		..
Ely	dep.	..	..	..	8 52	..	..	..	11 6	..	..	..	..	..	4 46	..	..	..	5 47	..
Waterbeach	"	..	..	..	9 1	..	..	..	↓	..	..	..	..	..	4 59	..	..	..	↓	..
Cambridge	arr.	..	..	..	9 12	..	..	..	11 25	..	..	..	..	..	5 7	..	..	..	6 6	..
Cambridge	dep.	..	7 10	..	9 18	..	9 51	..	11 33	..	12 5	..	2 6	..	5 17	..	5 13	5 35	6 13	..
Shelford	"	..	..	..	9 23	..	..	..	↓	..	..	..	..	..	↓	..	..	5 42	↓	..
Whittlesford	"	..	..	..	9 31	..	..	..	↓	..	..	..	..	..	↓	..	..	5 48	↓	..
Great Chesterford	"	..	..	..	9 38	..	..	..	↓	..	..	..	..	..	↓	..	..	5 55	↓	..
Audley End	"	..	..	..	9 47	..	..	..	11 54	..	..	..	..	..	↓	..	..	6 5	6 36	..
Newport (Essex)	"	..	..	..	9 51	..	..	..	↓	..	..	..	..	..	↓	..	..	6 9	↓	..
Elsenham	"	..	..	..	9 59	..	..	..	↓	..	..	..	..	..	↓	..	..	6 19	↓	..
Stansted	"	..	..	..	10 4	..	..	..	↓	..	..	..	..	..	↓	..	..	6 25	↓	..
Bishop's Stortford	arr.	..	..	..	10 9	..	..	..	12 8	..	..	..	..	..	5 50	..	..	6 30	6 51	..
Bishop's Stortford	dep.	7 53	..	9 5	10 11	10 17	..	11 52	12 9	..	..	2 25	..	..	5 53	6 16	..	6 32	6 55	7 37
Sawbridgeworth	"	7 59	..	9 12	↓	10 23	..	11 58	↓	..	..	2 31	..	..	↓	6 22	..	↓	↓	7 44
Harlow	"	8 4	..	9 18	↓	10 28	..	12 3	↓	..	..	2 36	..	..	↓	6 27	..	↓	↓	7 50
Burnt Mill	"	8 9	..	9 23	↓	10 32	..	12 8	↓	..	..	2 41	..	..	↓	6 32	..	↓	↓	7 55
Roydon	"	8 14	..	9 28	↓	10 37	..	12 13	↓	..	..	2 46	..	..	↓	6 37	..	↓	↓	8 0
Broxbourne and Hoddesdon	arr.	8 19	..	9 33	↓	10 42	..	12 19	12 25	..	..	2 51	..	..	↓	6 47	..	6 49	↓	8 6
Broxbourne and Hoddesdon	dep.	8 29	..	9 41	↓	10 43	..	..	12 26	..	..	2 52	..	..	↓	..	..	6 51	↓	8 8
Cheshunt	arr.	8 35	..	9 46	↓	10 49	..	..	↓	..	..	↓	..	..	↓	..	..	↓	↓	[illegible]
Waltham Cross and Abbey	"	8 39	..	9 49	↓	10 52	..	..	↓	..	..	3 0	..	..	↓	..	..	6 59	↓	8 16
Enfield Lock for Enfield Wash	"	8 43	..	9 52	↓	10 55	..	..	↓	..	..	↓	..	..	↓	..	..	↓	↓	[illegible]
Brimsdown for Enfield Highway	"	8 46	..	9 55	↓	10 57	..	..	↓	..	..	↓	..	..	↓	..	..	↓	↓	[illegible]
Ponder's End	"	8 49	..	9 57	↓	11 0	..	..	↓	..	..	↓	..	..	↓	..	..	↓	↓	[illegible]
Angel Road	"	8 55	..	10 1	↓	11 5	..	..	↓	..	..	↓	..	..	↓	..	..	↓	↓	8 24
Northumberland Park	"	8 59	..	10 4	↓	11 6	..	..	↓	..	..	↓	..	..	↓	..	..	↓	↓	8 27
Tottenham	"	9 2	..	10 7	↓	11 11	..	..	↓	..	..	3 10	..	..	↓	..	..	7 10	↓	8 30
Stratford	"	..	..	..	..	11 20	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hackney Downs	"	9 10	..	10 14	↓	..	..	..	↓	..	..	↓	..	..	↓	..	..	7 17	↓	8 37
LONDON King's Cross		..	9 27	..	..	..	12 0	..	..	..	2 0	..	4 0	..	..	..	7 26	..	..	..
LONDON Liverpool St.		9 18	..	10 23	10 50	11 31	..	..	12 53	..	..	3 25	..	..	6 35	..	..	7 25	7 38	8 45

SUNDAYS—*continued.* Restaurant Car—Ely to Liverpool Street. Restaurant Car—Cromer to Liverpool Street.

Station		p.m.	p.m. (H)	p.m.	p.m.	U p.m.	p.m.	T p.m.	V p.m.	U p.m.
Yarmouth (Vauxhall)	dep.	5 37	..	..	5 51	..	9 20	9 50	4 30	..
Lowestoft (Central)	"	..	..	..	5 45	..	[illegible]	9 45	..	..
Cromer	"	5 12	..	..	5 15	..	8R20	9 2	[illegible] 2	..
NORWICH (Thorpe)	dep.	6 25	..	..	7 9	..	10 25	10 36	6 10	..
Trowse	"	↓	..	..	↓	..	↓	↓	↓	..
Hethersett	"	↓	..	..	7 20	..	↓	10 47	↓	..
Wymondham	arr.	6 42	..	..	7 27	..	10 45	10 54	↓	..
Wymondham	dep.	6 45	..	..	7 29	..	10 46	10 55	↓	..
Spooner Row	"	↓	..	..	To Dereham.	..	↓	To Dereham.	↓	..
Attleborough	"	6 54	..	..		..	10 57		↓	..
Eccles Road	"	↓	..	..		..	11 5		↓	..
Harling Road	"	↓	..	..		..	11 13		↓	..
Thetford	"	7 16	..	..		..	11P34		↓	..
Brandon	"	7 28	..	..		..	11 46		↓	..
Lakenheath	"	7 36	..	..		..	↓		↓	..
Shippea Hill	"	↓	..	..		..	↓		↓	..
Ely	arr.	7 53	..	..	..	..	12 12	..	↓	..
Hunstanton	dep.	6 26	..	..	..	7 10	..	..	↓	..
King's Lynn	"	7 9	..	..	..	7 42	..	..	↓	..
Ely	arr.	7 48	..	..	..	8 15	..	..	↓	..
Ely	dep.	8 1	..	..	..	8 17	12 27	..	↓	..
Waterbeach	"	↓	..	..	..	8 31	↓	..	↓	..
Cambridge	arr.	8 20	..	..	..	8 40	12 46	..	7 32	..
Cambridge	dep.	8 27	8 37	8 3	..	..	12 53	..	7 38	..
Shelford	"	↓	↓	8 14	..	..	↓	..	↓	..
Whittlesford	"	↓	↓	8 [illegible]	..	..	↓	..	↓	..
Great Chesterford	"	↓	↓	8 5	..	..	↓	..	↓	..
Audley End	"	↓	↓	9 [illegible]	..	..	1 15	..	↓	..
Newport (Essex)	"	↓	↓	9 16	..	..	↓	..	↓	..
Elsenham	"	↓	↓	9 21	..	..	↓	..	↓	..
Stansted	"	↓	↓	↓	..	..	↓	..	↓	..
Bishop's Stortford	arr.	↓	↓	9 26	..	..	1 30	..	↓	..
Bishop's Stortford	dep.	↓	↓	9 28	..	..	1 32	..	↓	8 25
Sawbridgeworth	"	↓	↓	9 35	..	..	1 40	..	↓	8 3[illegible]
Harlow	"	↓	↓	9 41	..	..	1 46	..	↓	8 3[illegible]
Burnt Mill	"	↓	↓	9 46	..	..	↓	..	↓	8 4[illegible]
Roydon	"	↓	↓	9 51	..	..	↓	..	↓	8 48
Broxbourne and Hoddesdon	arr.	↓	↓	9 56	..	..	1 59	..	↓	8 53
Broxbourne and Hoddesdon	dep.	↓	↓	9 57	..	..	2 0	..	↓	8 55
Cheshunt	arr.	↓	↓	10 3	..	..	↓	..	↓	[illegible]
Waltham Cross and Abbey	"	↓	↓	10 7	..	..	2 6	..	↓	9 [illegible]
Enfield Lock for Enfield Wash	"	↓	↓	10 10	..	..	↓	..	↓	↓
Brimsdown for Enfield Highway	"	↓	↓	10 13	..	..	↓	..	↓	↓
Ponder's End	"	↓	↓	10 16	..	..	↓	..	↓	↓
Angel Road	"	↓	↓	10 21	..	..	↓	..	↓	9 1[illegible]
Northumberland Park	"	↓	↓	10 24	..	..	↓	..	↓	↓
Tottenham	"	↓	↓	10 29	..	..	↓	..	↓	9 18
Stratford	"	↓	↓	..	..	..	↓	..	↓	9 22
Hackney Downs	"	↓	↓	10 37	..	..	↓	..	↓	↓
LONDON King's Cross		..	10 40	..	..	..	..	..	..	..
LONDON Liverpool St.		9 41	..	10 45	..	..	2 47	..	8 53	9 38

A Arrival times from stations beyond Broxbourne and Hoddesdon. For complete service between Broxbourne and Hoddesdon and Liverpool Street see London Suburban Pocket Time Table No. 4.
B For other trains between Cambridge and Shelford see Table 30.
C For other trains between Norwich and Trowse see Table 8.
D Arrives Thetford 8.44 p.m.
E On Sunday mornings leaves Cambridge 12.59, calls at Whittlesford 1.9 a.m. to set down passengers only.

F Via March.
G Via March. Commencing 25th April leaves Hunstanton 9.40 p.m.
H Until 31st October inclusive leaves Cromer 5.45 p.m.
J Via March. On Saturdays leaves King's Lynn 10.52 and arrives Ely 11.43 p.m. via Downham.
K Via March. Tuesdays, Wednesdays and Thursdays only.
M On Saturdays calls at Lakenheath 11.57 p.m. to set down passengers only.

N Saturdays excepted. Does not run on 6th June and 14th April.
P Arrives Thetford 11.26 p.m.
R Not after 31st October.
SO Saturdays only. SX Saturdays excepted.
TO Tuesdays only.
V Saturdays only. Via March and St. Ives.
Y Calls at Shippea Hill to set down passengers only

R Until 22nd May inclusive leaves Yarmouth 1.35 pm
T Commences 29th May
12 0 might
J Commences 1st June
H Commencing 26 June leaves Cromer 5.23 pm (and during May only)
X. Commencing 29th May leaves Yarmouth 9.40.
Z. Commencing 1st June leaves Yarmouth 6.40 pm
G Commencing 5th June leaves Hunstanton 6.34 pm
U Commences 5th June. V Commences 26th June.
W Commences 15th May.
Y Until 22nd May inclusive leaves Yarmouth 8.10 and Lowestoft 8.25 a.m.
b Commencing 29th May leaves Yarmouth 6.34 pm

AN APPROACH TO TYPE DESIGN

IN THE TWENTIETH CENTURY

So long as people care enough about words to care about the shapes they take on printed paper, so long will the subject of Type Design be discussed. The discussions will continue to be either mutually helpful or maddeningly futile, depending on whether those concerned have taken the trouble to agree as to what the words mean—and to find out what each side is driving at.

And so long as different processes, paper surfaces, grades of machining, etc., can so alter the appearance of one type face as to make it look like several different faces (some "right" and some "wrong"), so long will it be reasonable to have text faces in a number of different designs, each "right" for its particular set of needs. The elementary need of the advertiser for "anything that's different" may cause wrangles, but seldom furnishes matter for serious discussion. The differences between such faces are glaringly, tediously obvious. Good book faces, on the other hand, have to be *unnoticeably* different —to the common reader; any variance of treatment to secure this or that effect must be as subtle as the difference between two well-trained speakers each speaking the same King's English. Hence such faces are worthy of discussion—by the people who have to secure the printed effects. What is more, book faces represent a long-term investment to the printer. Hence serious study of type faces will always centre, not merely on the text faces in general, but particularly on the classics of the book printer's repertory. For with them one need not waste time on elementary questions. Each of them is admittedly legible, "readable", suitable for some group of purposes, and aesthetically satisfactory enough to be permanently good. What each one is good *for* provides the topic for very fruitful arguments, in which the printer who has chosen wisely has an excellent chance of successfully defending his own suggestion instead of emerging as the owner of yet another odd size "put in to get the order".

Some years ago the Monotype Corporation issued a "Type Chart" by means of which most of the important book faces in use to-day could be compared *functionally*. Thus, no space was wasted on assigning historical "periods" to faces cut or revived for twentieth-century use, nor to any guesswork as to the "atmospheric suitability" of a given design: instead, the comparisons showed (for instance) how the treatment of curves affects the set-width of a fount, hence its ability to economize space or drive out the copy; how the depth allowed to descenders and ascenders affects legibility-for-size; how the lightness or darkness of the face affects its fitness to a paper surface; and how the narrowness of italic in relation to its roman varies with different founts. These are questions on which the most experienced professional typographers are glad enough to have documentary evidence.

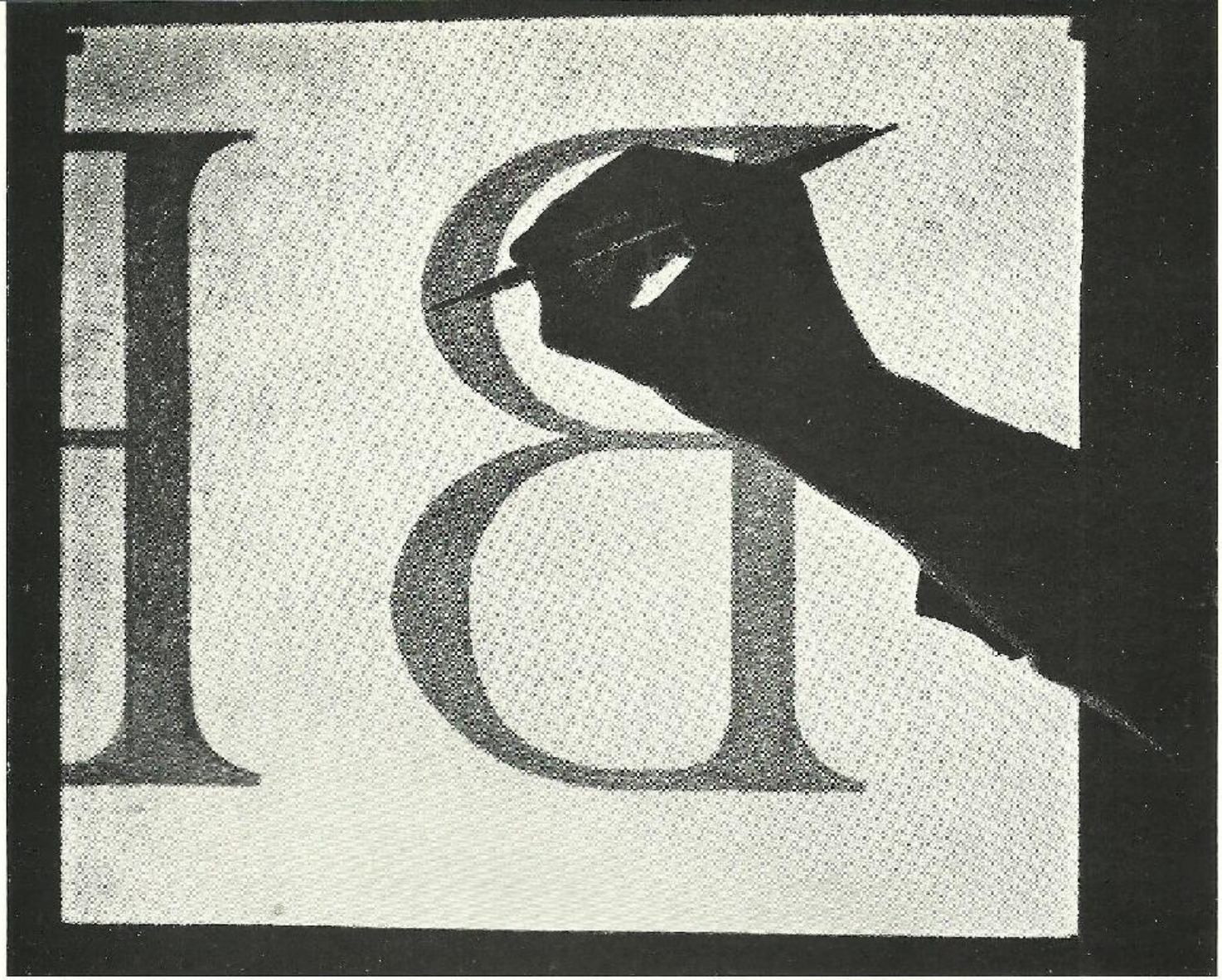
And they are questions which might just as well be put straightaway before the merest novice, if only to make him blink and revise any idea he may have that a repertory of modern type faces consists of many successive attempts to create the Face Beautiful! But it is no good inviting the novice to study the whys and wherefores of type design until his eyes, those of the common reader, are fitted with the mental microscopes that make details in ten-point loom so large to the proficient typographer.

"LETTER-CUTTING" EXERCISES

Hence in the revised edition of the "Type Chart"* which is now being prepared for press, the beginner is given a chance to approach the whole subject through a series of simple exercises which bring the hand to the rescue of the eye. The material for these exercises consists of large-size alphabets of Bembo (as the original and finest "Old Face") and Bodoni (as the logical conclusion of the Modern reconsideration which began in 1691). These two designs, which are about as different as any two *good* book faces can be, are over-printed with red rules to mark all the "common lines" of the fount.

The first exercise consists of laying flimsy paper over the large models and tracing a given character with a

* *A Comparison of Type Faces.* Royal quarto trench-fold opening into a broadside. To be published shortly by The Monotype Corporation.



ABOVE: TRACING THE PROJECTED IMAGE

Great manual skill is required, and, in certain cases, critical judgement. The prints of an ancient type may be thickened by "ink-squeeze"; but on this scale the image (projected by an epidiascope or lantern) makes it possible to distinguish what is accidental, unintentional, from what is "the design". This photograph was taken in the Dark-room at the Monotype Corporation's Works at Redhill.

sharp pencil, first in one fount, then in the other. Even better than tracing would be to black out the background and "counters" (enclosed areas), working inwards towards the face so as to leave a neat white-on-black letter; for that would recapitulate as far as possible the actions of the punch cutter. That craftsman (or machine) does not lay down a letter on paper as the letterer and calligrapher do; he keeps cutting away metal, and what he leaves at the end is the "face" of the character, standing up in relief.

So this First Exercise can do more than merely make "little" differences of treatment as obvious to the eyes in ten-point as they are to the fingers in 60-point. It can also remind the beginner how type-designing differs from simpler and more direct kinds of letter-shaping. It is essentially *design for mass-production*, and as such requires deliberation, forethought and the patience to keep on testing, destroying and reconstructing the master-patterns until they precisely carry out the agreed intention.

Having imitated, to some extent, the action of the punch-cutter, the beginner may find out still more by attempting certain alterations which are concerned, however modestly, with principles of type *design*. Thus he can make a "48 point Bembo large-face" from his 60-point models by simply cutting through the ascenders and descenders and rejoining the strips so that they overlap. The point at which to cut, and what to do with the tail of the g, are problems that call for discretion and judgement, two primary virtues in type design. A third virtue, manual skill, is called for in the next exercise: a

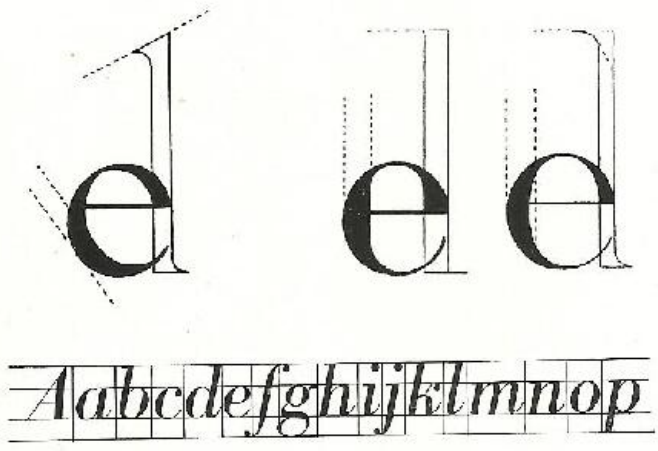
number of characters are *consistently* thickened or thinned with ink or Chinese white, and thickened or thinned "in character": thus the hair-lines of Bodoni need not be fattened to make a "half-fat" version. And even within the fount consistency of thickening must be carefully watched; a d and a b that pass muster individually may still not seem to be two characters of the same "half-fat" fount or series.

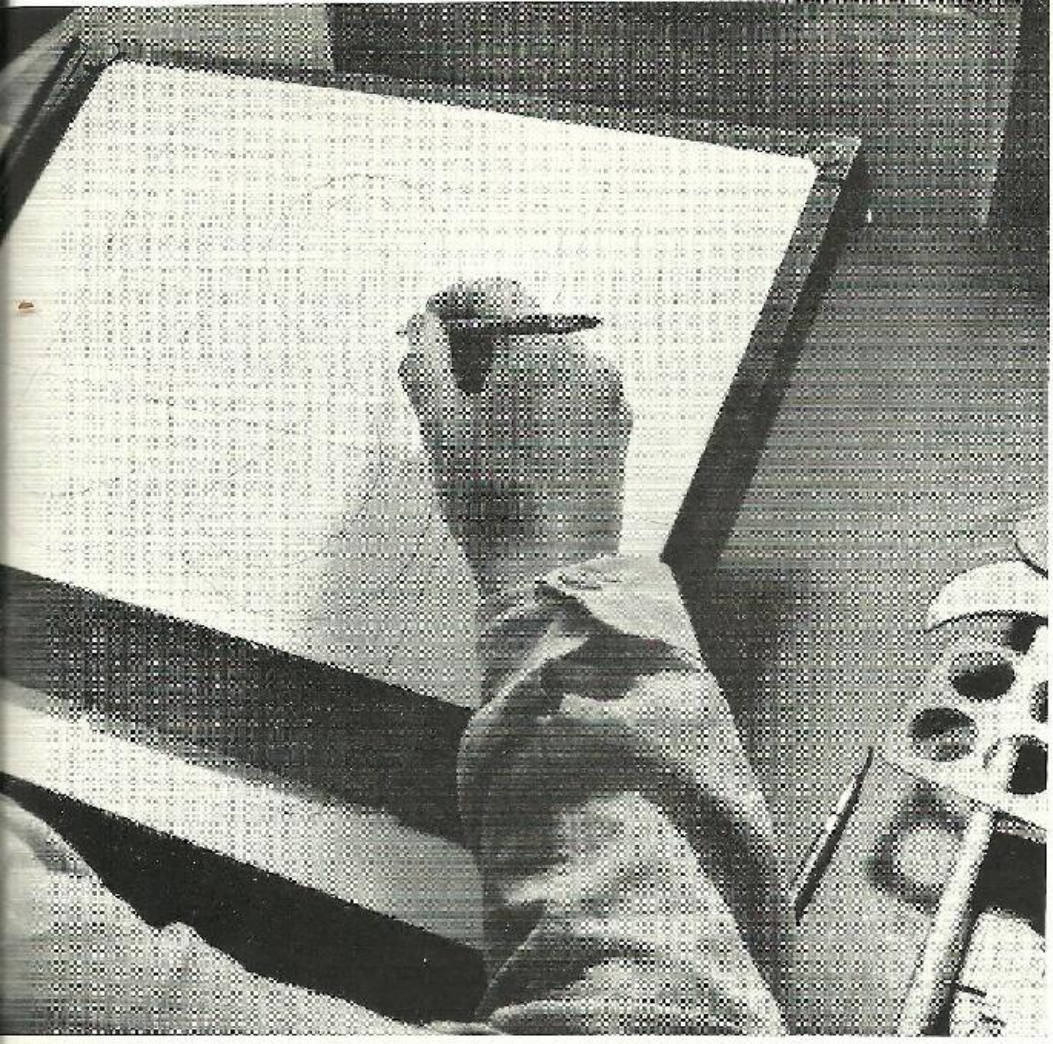
The use of a diminishing-glass will be as helpful in its way in these exercises as the enlarging lunette is to the hand punch-cutter. But it should be remembered that 60 point is by no means 10 point "photographed up"; the very experiments in reproportioning and alteration of colour which have just been mentioned will help one to appreciate the very subtle changes that have to be made in order that a given design (series) may make as perfect an 8 point (say) as a 10 point.

Tracing can be an admonitory exercise, too — especially if one knows something about the modern processes of matrix-making. Let us suppose that the beginner has been imagining that the world was waiting for an advertising face giving the effect of cross-hatching or of fine white dots. It is easy enough to draw such a face, or at least to dab in the white dots or lines with a little Chinese white, and then hand the whole thing over to the block-maker to be precisely reproduced. But when the drawing of a single letter of that sort is finished, then its designer ought to trace or silhouette it with a hard sharp pencil through flimsy paper, as described above. The attempt is now to make a white-on-black letter, cross-hatched with fine white lines, or spattered with small black dots. (It will be remembered that leaving anything white, in this experiment, stands for leaving that much on the face of the punch, and the pencillings represent metal cut away.) To get the effect of white lines crossing, all their interstices must be carefully outlined as small lozenges of black and the pencil must trace around each one carefully several times to fill it in. The same with each little dot; each one must be tooled out gradually and very deliberately. Half-way through this tedious exercise it will occur to the designer that the gay spontaneity of his spatterings with Chinese white has turned into something very different. He will see why letters of that sort, though they are just as *easy* for the mechanical punch-cutter as any other kind, may take three or four times as long to cut—i.e. occupying skilled labour and a casting machine that is needed for a less ephemeral purpose. Often a professional letterer

Here and in the adjoining column we reproduce fragments of the "model letter" panels which will appear in two colours (red-ruled) on the "Type Chart".

The "capital line" of Bembo is lower than the "ascender line", as in most Old Face designs. Note how e, c, etc., have been brought into *optical* alignment.





THE "DEFINITIVE SHAPE" IS MADE from the Tracing: a 9-inch Drawing is completed, approved and measured in units of .0001" of the face of the punch.

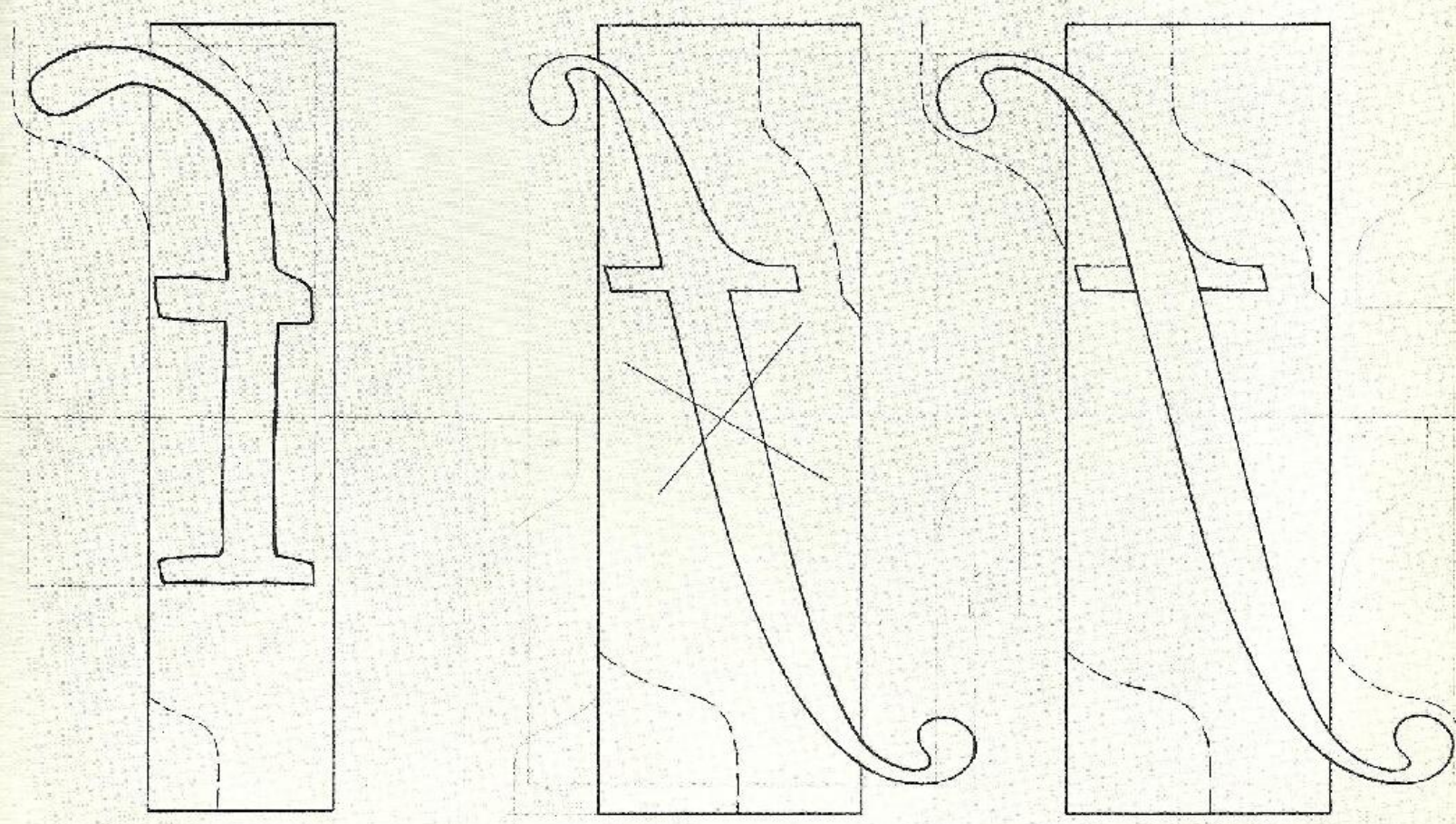
Below: (at left) drawing of a letter of Poliphilus, showing that the irregularity of the ancient impression on paper was intentionally copied in this exceptional case.

Middle: A rejected drawing for the italic *f* of "Monotype" Times New Roman.

Right: The final drawing of the same.

The outlines have been re-inforced with ink to make them more apparent in this half-tone; actually they are drawn by pencil.

The definitive "shape" is cut in wax with pantographic reduction to make the 3-inch raised metal letter which guides the mechanical punch-cutter.



327-12 Times Roman

with "ideas for a type face" has to be reminded that there are such things as block-makers' effects and lithographers' effects as well as effects proper to type-cutting.

The exercises can stop whenever the novice finds that he is able to perceive differences in shape, proportion, weight, etc., between one design and another. Or they can continue until the experimenter feels so sure that he understands the "intention" of each fount, and so trusts his newly confident fingers to give coherent and consistent shape to some *similar* intention, that he could be said to have taken the first step towards becoming a real typographer in the only trustworthy sense of that word.

Times have changed since Fournier, in his pride of skill, refused the title of "typographer" to anyone who had not won it in a successful single-handed battle against every technical problem involved in the whole art of typography. Before that whole art can show a single finished result, somebody has to make metal replica-letters called printing types; before they can be made, somebody has to give final shape to the metal letters of which printing types are replicas (so far as the "business end" is concerned). Before that shape can be called final, somebody, generally some group of people, has to be absolutely clear about the intention with which the letters are to be cut; for the phrase "a design", whether it applies to a mental plan of action or a visible construction, always refers to *an intention* which has to some extent "taken shape". To-day, all the technical processes by which a metal-cutter translated "the intention" by hand into actual-size steel letters, have been turned into mechanical processes involving no exercise of critical judgement whatever.

A typographer is one who *would be able* (given the occasion and the capital) to direct this entire chain of operations—not necessarily showing a machine-operator how to work his machine, indeed never using his hands as long as he can trust a specialist craftsman, but certainly controlling ("taking the blame for") every successive move towards the final printed effect. The occasion does sometimes arise; new projects for a newspaper, or a system of time-tables, or a series of books, etc., may be such that no existing type design exactly "fits" the new set of intentions. In such cases the need is for a genuine typographer: one who can first of all visualize the best ultimate effect (printed pages "fitted" to a recognized need), and then can deduce and show what shape of letter is required; and then can see to it that the right intention takes the precisely right set of shapes, without waste of time and effort.

While preparing himself for that supreme test, the typographer may occupy himself with "layout work", *designating* existing *designs* of type because they have anticipated his own (and his customer's) intention. But, if only to eliminate sentimentality and second-hand thinking from his attitude to those existing designs, he must know how they took shape, and what intentions brought them into being.

He should realize for example that no change whatever is supposed to take place in the design of a fount during any technical operation connected with punch-cutting or matrix-making. Several modern designs such as Perpetua and Centaur (and of course all "pre-1885" designs) have at one stage passed under the hands of a manual punch-cutter. But in every case the modern method is to bring together some set of model letters, whether original drawings, or the prints-on-paper of a lost fount which happens to embody some present-day intention, or an actual set of steel punches or printing types. Those designs are then translated into working drawings on a scale large enough to permit of measurements in units of .0001". This is done by first making a projection of each model letter 9 inches high on a screen, and very carefully tracing that image. The measured drawing is made from the tracing. The shape of the punch literally cannot vary, except in scale, from the shape of the measured drawing, which in turn must not vary from the shape of the model, except insofar as the designer has deliberately or accidentally left room for interpretation.

A trial casting of actual type is made. This may cause modification of the "definitive shapes", in which case drawing, punch, matrix and type are all condemned and the whole chain of operations starts afresh—as often as is necessary before the final trial casting shows that in every respect the ruling intention has been achieved.

And no trial casting *can* show that until it has shown how the whole set of letters called a fount combines and re-combines into words—and how well the "shape" and proportions of those letters have been planned for the intended size.

And each additional size cut must be similarly tested, to make sure that subtle re-proportionments (calling for new tracings, new drawings, etc.) have done equal justice to the Ruling Intention which put all these operations in train. P. B

SIMPLIFIED TYPE CALCULATIONS

A NEW "ALL-AT-A-GLANCE" METHOD

THERE are many rules and principles of advertising layout, some of which can be gaily ignored in order to "do something different". But one simple fact has to be remembered before anything else. A given area cannot be made to contain more than a given number of words in a given size and face of type. And it is nothing short of astonishing that in these days of "type-conscious" advertisers the printer should still be wasting so much time explaining to apparently intelligent customers that his types are not made of rubber; that the specification calls for 12 point, but the copy calls for 6 point; that an "area" in Fournier cannot be reset line for line in Rockwell in the same size; and other facts which a typographer ought to have learned in the nursery before he ever handled a straight-edge and pencil.

THE WILSON CHARTS

It is not as if there were any excuse nowadays for miscalculating the available amount of copy for the given space or the size in which the given copy would go in a given space. True, the copywriter who thinks like a literary man and the layout artist who thinks like an "artist" may recoil nervously from a lecture on the principles of copy calculation. But nowadays the printer is very likely to urge his customer to invest half-a-crown in the Wilson Casting-off Tables,* which need only a glance at the index and a moment's search of the big table to tell one the number of average-width characters that will go in any measure from 5 to 60 ems, in any composition size of any "Monotype" face.

Some printers, however, would rather have an "all-at-a-glance" chart to whip out in the customer's face the moment that a "rubber type" dispute threatens. To their aid has come Mr. Ronald Goodsman, with a set of three charts giving approximate calculations for narrow-set, medium-set and wide-set types respectively. We print one of them on the opposite page, and copies of the other two are available to any readers of *The Monotype Recorder* who desire to have the set. This is not a chart for calculating extensive copy with the precision which the book printer needs; it is chiefly a means of tactfully and instantly warning advertisers as to what their copy will "come to" in area (given the size of type) or in size of type (given the area).

HOW TO USE THE CHART

Mr. Goodsman's directions as to how the chart should be used are appended thereto. In cases where the measure is constant throughout, it is Mr. Goodsman's practice to determine the total type depth and to obtain the number of lines required from this figure. The number of characters per line is then found from the chart, the typewriter is set to the same amount, and the required number of lines typed to fill the area.

The chart can also be used to determine the size of type required when the total area and the number of words is known or to determine the measure when the number of words and the depth is known.

If 140 words are to be set in 10-point to a depth of 2¼ inches, 20 lines of seven words (or 42 characters) per line are required. The chart shows that, as the 42-line, opposite 10, is above the 14-pica vertical, that the measure will be 14 picas.

---

* *A System for Casting-off Copy for Composition on "Monotype" Machines. Devised and compiled by C. F. Wilson.* Published by The Monotype Corporation Limited, London, 1938. 2s. 6d. (2nd ed.)

MEDIUM SET

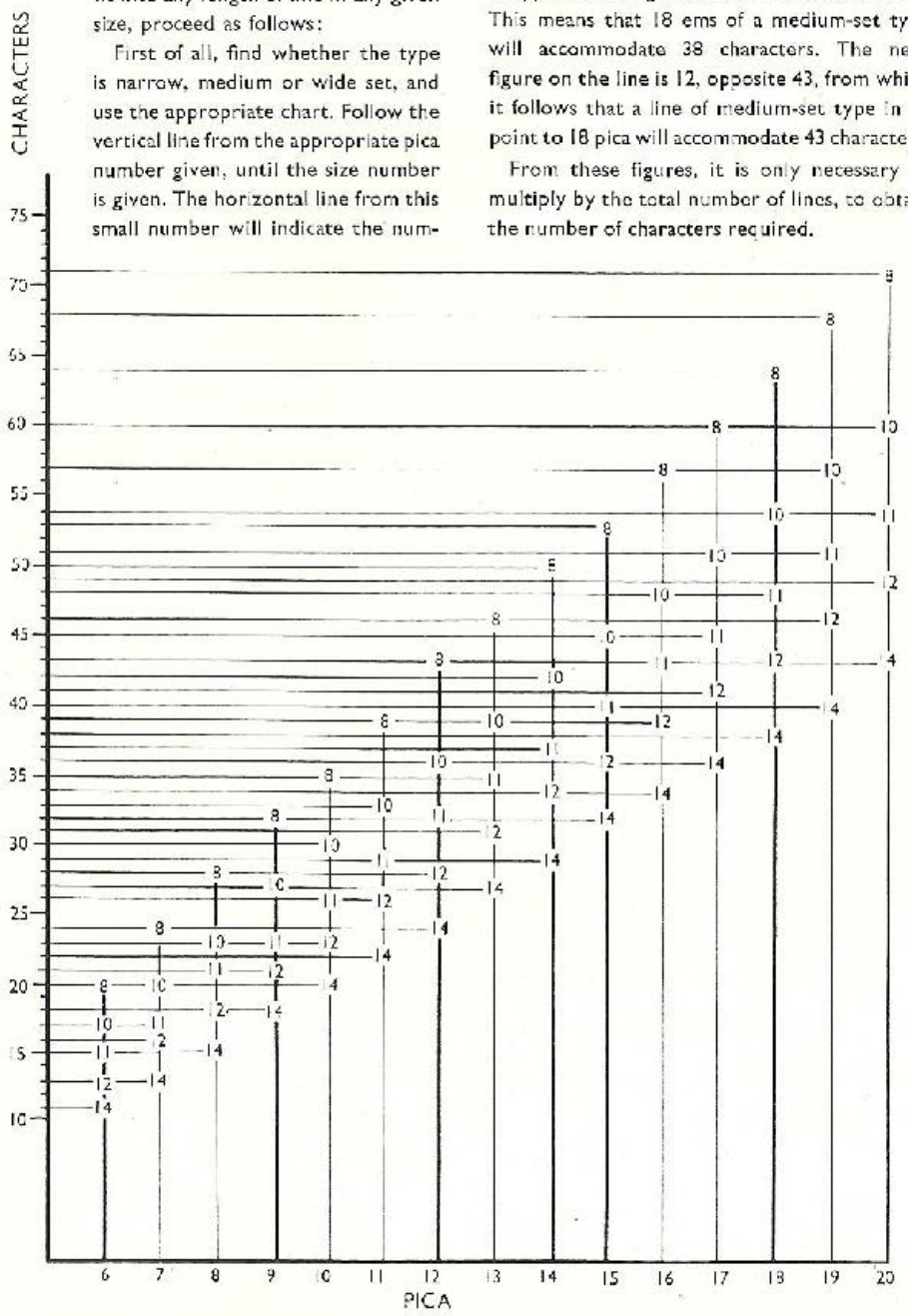
FACES, SUCH AS PLANTIN, GILL SANS, BASKERVILLE, TIMES 327, OLD STYLE No. 2, IMPRINT, can be approximately calculated (in terms of advertising spaces) from this chart.

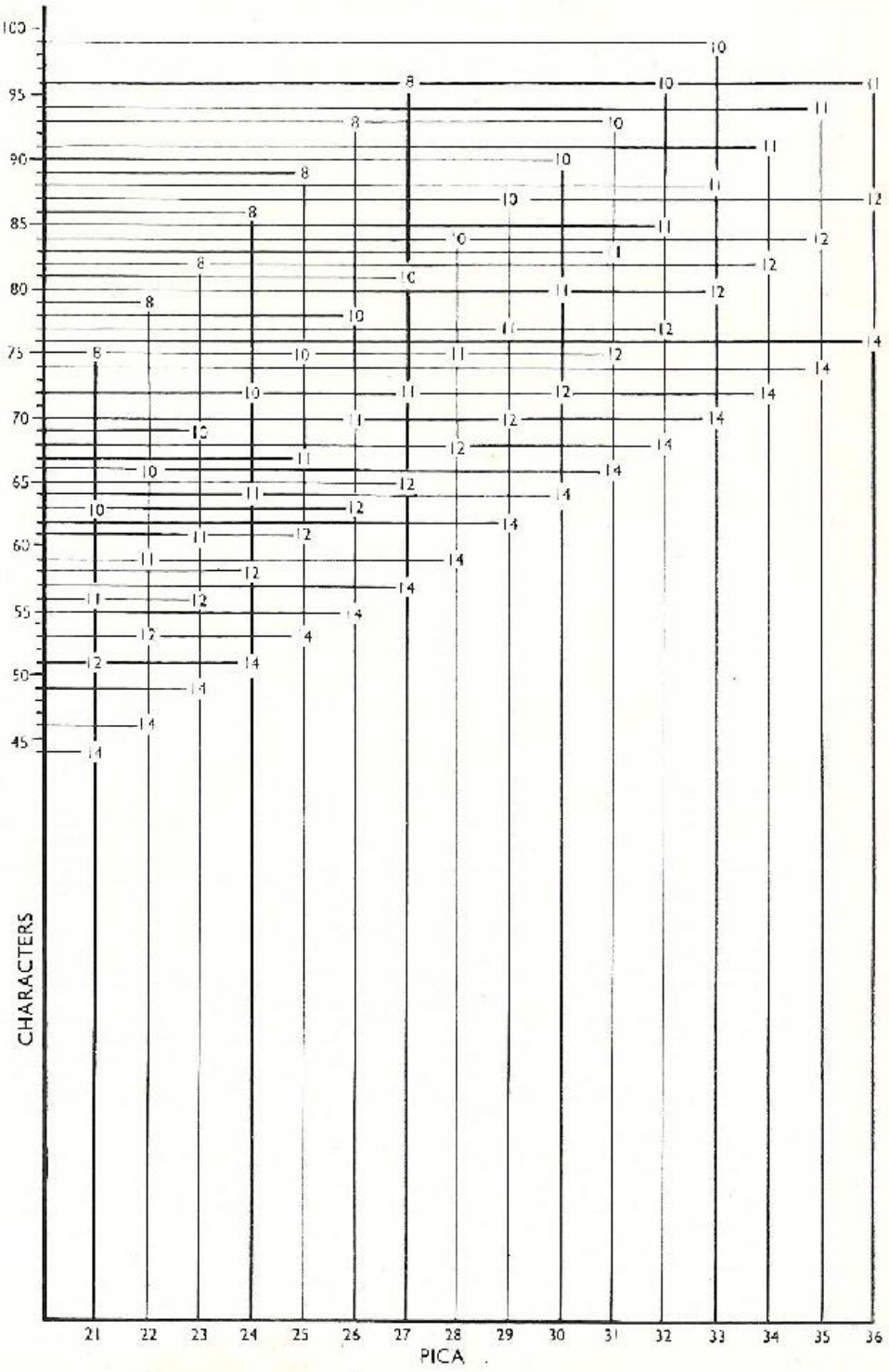
HOW TO USE THE CHARTS

The horizontal abscissæ give pica ems from 6 to 36. The vertical abscissæ give characters. To determine the number of characters which will fit into any length of line in any given size, proceed as follows:

First of all, find whether the type is narrow, medium or wide set, and use the appropriate chart. Follow the vertical line from the appropriate pica number given, until the size number is given. The horizontal line from this small number will indicate the number of characters if followed to the vertical abscissæ. For instance, we find that by following the vertical line from 18 pica on the medium-set chart, we first encounter the figure 14 which is opposite the figure 38 on the character scale. This means that 18 ems of a medium-set type will accommodate 38 characters. The next figure on the line is 12, opposite 43, from which it follows that a line of medium-set type in 12 point to 18 pica will accommodate 43 characters.

From these figures, it is only necessary to multiply by the total number of lines, to obtain the number of characters required.





PREPARING A RAILWAY TIME-TABLE

By EDWIN ROBINSON

formerly assistant to Advertising Manager, London & North Eastern Railway

WHEN, in 1929, the L.N.E.R. first decided to experiment with Gill Sans type, a try-out with newspaper advertisements was decided upon, which was so successful that this face was adopted as the standard for all their Press announcements. Its extension to printed matter was the next step, but this could only be taken as and when the contracts with some ninety different printers throughout the country expired, which meant that two or three years elapsed before this stage of type standardization could be completed.

There was still, however, the company's main time-table, known to railwaymen as the "big book", to be brought into the scheme. This publication was printed under a separate contract which had a longer period to run than those for the handbills, pamphlets, posters, etc., and it was not until the Spring of 1936 that the road was clear for this, the largest step of all, to be taken.

The "big book" had to be issued three times a year: the number of pages varying from 496 to 516, according to the issue.

It will be appreciated that, as the majority of the matter consists of figures, particular attention had to be given to this portion of the type face, and in this respect Gill Sans was found to give the necessary clarity, readableness and distinctiveness. For instance, there must be no risk of the 3 being mistaken for a 5 or a broken 8. Another point requiring careful attention was the necessity for a sharp distinction between the roman and italic figures as the latter are employed to indicate the trains which do not run every weekday, *e.g.* "Saturdays excepted", or only during a portion of the period covered by the particular issue of the time-table. In this respect, also, Gill Sans was found fully to meet requirements.

The Monotype Corporation having, in their wisdom and doubtless for very good reasons, thought well to produce matrices of Gill Sans in alternative designs, both for letters and figures, it was necessary to prepare and issue to the contract printers sheets showing the letter and figure designs which alone it was required should be employed. These sheets were headed "L.N.E.R. 'Monotype' Gill Sans-serif", thus happily linking together the designer, type-cutter and user (*see* Inset).

At this time Gill Sans type was not available smaller than 6 point, whereas portions of the "big book" and the whole of certain other time-tables had to be set in 5 point, so the Corporation soon produced matrices in 5 point for a 5½-point body, thus providing a space between the lines so as to throw up the figures and letters without leading.

The plan of campaign: An important factor for ensuring publication by a specified date of this, the principal publication of a railway company, is the drawing-up of a schedule of dates for the various stages of the work (*see fig. opposite*). Not only is every District Traffic Officer of the "home" copy concerned in this matter but, as the services of other railway companies are shown in the book, the officials of the latter must be asked to work to this schedule, just as the "home" company is prepared to render similar assistance in the case of the "foreign" companies' time-tables. The printers are also required to adhere strictly to the limited periods allocated for their various processes, so that when the "zero hour" is reached, the time-table may be available for issue to what it is hoped will be an eagerly-awaited travelling public.

Preparing the "copy": Specimen pages having been set in the selected type-face and after careful scrutiny approved, the printers were now in a position to deal with the "copy" for the first issue in its new dress. As the publication, although requiring to be completely re-set, was based upon a book which had already been issued for several years, manuscript copy was not needed and the previous issue, amended in accordance with the alterations in the train services already decided upon, was supplied a few months earlier than usual on account of the large amount of type-setting involved.

It will be recognised that, owing to the extra trains for holiday traffic coming into service with the Spring and Summer issues of the time-table, those drafts contain a larger number of additional timings than in the case of the Winter issue. These are inserted on

L.N.E.R. ALL-LINE PUBLIC TIME TABLE: PRINTING SCHEDULE FOR 1938

ACTION	SPRING 2nd May to 3rd July, 1938	SUMMER 4th July to 25th Sept., 1938	WINTER 26th Sept., 1938 to 7th May, 1939
Alterations requiring the consent of other Co.'s to be agreed by..	1st Nov. 1937	1st Feb.	1st July
Complete details of revised service for Time Table compilation to be available by	24th Nov. 1937	26th Feb.	1st July
PROOF BOOK			
Draft matter to commence passing to Printer on.....	9th Dec. 1937	14th March	7th July
Last copy to be in the Printer's hands by.....	16th Dec. 1937	19th March	14th July
Complete Books to be delivered by	1st Jan.	1st April	25th July
FOREIGN COMPANIES AND DISTRICT EXTRACTS			
To be despatched by...	1st Jan.	1st April	25th July
Due back from Districts by.....	8th Jan.	8th April	30th July
Due back from other Co.'s by.....	14th Jan.	15th April	6th Aug.
FINAL PROOF BOOK			
Draft matter to commence passing to Printer on.....	24th Jan.	—	—
Last copy to be in the Printer's hands by.....	29th Jan.	—	—
Complete Books to be delivered by	14th Feb.	—	—
PUBLISHERS' PROOF			
Draft matter to commence passing to Printer on.....	—	18th April	30th July
Last copy to be in the Printer's hands by.....	—	23rd April	6th Aug.
Complete Books to be delivered or despatched to publishers on	(See below)	9th May	20th Aug.
DISTRICT EXTRACTS			
To be despatched on...	14th Feb.	9th May	20th Aug.
Due back by	21st Feb.	14th May	27th Aug.
SALES AND GRATUITOUS ISSUE			
Cover, Front Inset, Art Run, Omnibus Inset, Maps and any other matter for inclusion in Book to be revised and proofed as early as possible and be in the Printer's hands for press by.....	24th Feb.	16th May	30th Aug.
All pages to be passed to Printer for press on.	24th Feb.	16th May	30th Aug.
First 1,000 copies of Book to be delivered by	1st March	20th May	5th Sept.
Complete delivery of whole supply to be effected by	7th March*	26th May	12th Sept.

**Spring supply to include 1,300 Publisher's copies— to be despatched on 7th March*

Schedule showing dates for the various stages in the production of L.N.E.R. All-line Time-Table.

the appropriate pages of the previous issue (on a special copy pulled "one side only") either by pen or by pasting column cuttings from the corresponding issue of the previous year. For this purpose it is the practice, in the case of the main line or other "busy" pages, to leave a certain number of blank columns in the Winter issue, so as to reduce, as far as possible, carry-overs from one page to another. Where the figures in an existing column require to be altered, the amendment is made on the top of the printed figure.

A specimen draft page as sent to the printer for "first proof" is shown on the reverse of the Inset sheet.

Setting the first issue in Gill Sans: Immediately the successful tenderers (Messrs. Harrison & Sons Ltd.) were advised that they had secured the contract for printing this time-table in Gill Sans throughout, arrangements were taken in hand for preparing the needful material for this big job. First type moulds were prepared to ensure uniformity of height of the type to paper, drawings of the special leaders with lines and arrow heads were made, photographically reduced to the required sizes, and from these the Monotype Corporation were to cut the necessary matrices.

Meantime experiments were made with the constituents of the type metal so as to ensure a type which would stand up to the hard work required of it, *i.e.* two printing impressions (first proofing, 175 copies, and publishers' proof, 1,250 copies), and one moulding three times annually for a five years' period. In all six tons of metal was made for the first issue.

On receipt of the draft copy, four "Monotype" keyboards and two casting machines were set apart for producing the necessary type and these were run day and night for about six weeks.

For each train service page the following settings were necessary:—

Headings in 8 and 12 point.

"Local services table numbers" column and stations.

Terminal Stations, 8-point caps. on 6-point body (inserted by hand).

Train times in two sections.

Notes at foot.

The "Bus" sign in station column was specially designed, a matrix direct-engraved, types cast and inserted by hand.

The vertical and first and second column rules, including those for the page border, were made of brass, whilst all other rules were cast to the required column width and inserted by hand. The "arrows" down the columns mentioned under "Standardisation of notes" were introduced at the change to Gill Sans and were specially cast with leaders on 6-point body, the join of each being almost imperceptible.

The index pages were set in a 5-point face on a 5½-point body.

As the first rough-proof pages were ready they were read over with extra care by readers specially trained in time-table work and were given a second read-over before the first complete proofs were sent to the railway company.

It was found advisable, as a result of previous experience, to provide two settings for certain pages which were subject to heavy alterations in the Summer issue—one setting for Winter and Spring, and one for the Summer issue.

The first proof: This is pulled in green ink (selected because of its kindness to the eyes) on one side of white paper of a non-absorbent nature, suitable for carrying corrections by pen. These proofs are circulated to something like 60 officials of the L.N.E.R. and other railway companies for checking so far as their particular interests are concerned and for return with any necessary corrections to the central time-table office. Here all the alterations are collated in one copy for the printers, violet ink being used as a contrast to the green ink on the proofs and fine-pointed pens employed.

Standardisation of "Notes": The well-known joke regarding the intending traveller who missed his train through overlooking an insignificant although important letter indicating that that particular train would not run on the day he wished to travel by it, has to be borne in mind. To assist in reducing the number of such unfortunate cases, the notes throughout the L.N.E.R. time-table are, so far as is practicable, standardised so that "S.O." always means "Saturdays only", "X" means "one class only", etc. Another method of assisting the inexperienced time-table user, one which is employed only in this Company's time-table, is the insertion of an "arrow" down the column of each express train opposite all the stations through which the train runs without stopping. It is thus possible to trace the journey of the train without risk of confusion with the times indicating branch-line trains which connect with the express, the stations for the former being indented in relation to the main line stations. A glance at the draft page of copy reproduced (on the Inset) will make this quite clear.

The "Publishers' Proof": After the corrections in the first proof have been carried out, another proof is pulled which is called the "publishers' " proof and a copy of this is sent to the publisher of every privately produced time-table in the country which contains any portion of the L.N.E.R. train services. This includes publications ranging from "Bradshaw" to parish magazines containing the local services affecting village stations. In addition, a further check is made by the officials to whom the first proof was circulated, and the consequent amendments are embodied in a copy for press. These alterations are also circulated to the publishers previously mentioned in the form of a "publishers' notice", which is also issued about a fortnight before the beginning of each succeeding month, containing subsequent alterations in the services, so that the private time-table guides, which are generally issued monthly, may be kept up-to-date.

Going to press: The amended pages of the "publishers' proof" are now passed to press in signatures of 16 or 32 pages at a time and the carrying out of the corrections is checked over by a time-table clerk and the O.K. given for printing as each signature is ready. A stereo of each forme is cast and this section is then ready for the machine. Rotary machines are employed which print 16,000 signatures of 16 pages per hour. Collation, wire stabbing (4 times), wrapping and trimming then follow in accordance with the usual practice familiar to most readers of this publication.

Auxiliary publications: Concurrently with the preparation of the first draft of the "big book" the auxiliary time-table publications are taken in hand. First, 78 sheet time-tables (for posting at the stations) are tackled, much in the same way as the book, followed by a large number of "Area" and "District" pocket time-tables, holiday and other express train service posters, hanging cards, etc., and it will be appreciated that even the specially augmented staff of expert time-table clerks, to say nothing of the printers, are "at it hammer and tongs" until the last of these has been passed for press in sufficient time to ensure the whole being printed and distributed well before the commencing date of the new service.

TECHNICAL QUERIES

ANSWERED BY R. C. ELLIOTT

Q.—What is the best method of finding the justification figures when the line finishes in advance of the 4-em mark on the em scale of the keyboard?

A.—Always add one unit to the shortage indicated by the em pointer and vernier, because the justification of lines, by means of the justifying scale automatically coming into operation, commences at 71 units from the end of a line. Lines containing more than four or five justifying spaces (according to the set) may be justified, if necessary, before this point is reached.

To do this note how many units that the em rack pointer has stopped in advance of 71 units from zero. Note the justification numbers at 71 units in the row indicated by the space pointer, and then trace to the left of the "constant" in that row to where the lower number is the same as the lower at 71 units (this square we will term A). Then find the square to the left of this equivalent to the number of units that the line is short of 71 units (this square we will term B). The lower number of this square (B) is the lower number required for the justification. For the upper number required subtract the upper number (A) from upper number (B), and add the difference to the upper number at 71 units.

For example: A line of 8½-set containing 8 spaces is terminated at 17 units from 71 units: find the justification. At 71 units the justification is 9–8. At 7 units in the 8th space line the justification is (A) 2–8, and 17 units to the left of this the justification is (B) 4–6. The lower number of the required justification is therefore 6. The difference between the upper numbers A and B is 2, and this added to the upper number of 9–8 at 71 units, gives the justification as 11–6.

Another method (for this example) would be to subtract the "constant" (1–12) from the 17th unit justification in the 8th space line (3–10). The difference (1–13) should be added to the 71st unit justification (9–8), giving 11–6.

Q.—Can you give me any general directions as to the division of words in Greek composition?

A.—Divide between two vowels unless the second is an *iota* (ι) or an *upsilon* (υ) forming a diphthong; divide between a pair of consonants—such as *pi* (π) or *lambda* (λ)—when duplicated; divide when the first of two or more consonants is a liquid (*lambda*, λ) or a nasal (*gamma* γ); divide after a hard mute followed by its corresponding aspirate: (*kappa*, κ, combined with *chi*, χ; *tau*, τ, combined with *theta*, θ; *pi*, π, combined with *phi*, φ); divide after any of the following: *lambda* (λ), *mu* (μ), *nu* (ν), or *rho* (ρ), when followed by another consonant, and after προς or εις.

Q.—When draw rods are properly adjusted and the timing of the centring pin is correct for one matrix-case, can it be taken for granted that further adjustment is unnecessary when a different matrix-case is used?

A.—If the substituted matrix-case contains matrices with the same side wall on the crossblock side there is no need to make any further adjustment of the draw rods, as standard matrix-cases are interchangeable in every respect. Composition matrices of 11-point and downwards have a standard side wall of ·035″; but 12-point founts have a side wall of ·025″, necessitating an alteration in the adjustment of the rear draw rod. The matrix-cases for the Extended Matrix-Case Attachment are not interchangeable, without adjustment, with standard matrix-cases. When changing to this attachment both draw rods must be readjusted.

Q.—Can you suggest a method of securing a reliable routine and record of output from our "Monotype" machines?

A.—We are content to quote from an address, published in a previous issue of this journal, by C. E. Batey of the Oxford University Press, on the organisation of

a "Monotype" machine department: We begin with the operator, who completes the spool label H which identifies the job and gives details for casting. The caster attendant, after casting, passes the spool and the galley to the proof-puller. The proof-puller has an electro which he places on the galley with the type so that when the proof is taken there is provision for certain detailed information. At the end of the day these proofs are gathered together and are handed to the costing department.

Meanwhile the operator and caster attendant have completed their daily dockets which are also delivered to the costing department. These dockets carry two additional columns which have been left blank: they have no printed headings but are for the recording of the output against the time spent on the work. Each galley is cast off and the result entered in the column. This is actual output, but if the copy presents unusual difficulty, an extra credit is allowed for this and gives a figure known as the "credited output". These figures are entered daily on specially ruled sheets to show both individual output and departmental output; weekly, monthly, quarterly, and yearly aggregates and averages are then worked out and summaries made.

Q.—I am not good at figures, but would you tell me how to subtract, for example, 3-8 from 8-3?

A.—Convert 8–3 to 7–18 by borrowing 1 from the upper number and adding 15 to the lower, so that the example becomes 7–18 minus 3–8, giving 4–10.

Q.—What is the best method of setting headings in 10-point with an 8-point text using the automatic leading attachment? Would you employ the unit-adding attachment or is the standard letter-spacing method quite as efficient?

A.—Apply the unit-adding attachment, and find suitable positions in the matrix-case according to the equivalent unit values of the small set.

A LETTER OF INTEREST TO THE ENTHUSIAST

To the Editor, THE MONOTYPE RECORDER

SIR: It has often occurred to me that, in this country alone, there must be a vast number of men operating "Monotype" keyboards and casters, all working and thinking under similar conditions. These men, the majority of whom are of a fairly high standard of intellect, engaged in their respective jobs day after day throughout the year, must have many interests in common, and must come across many experiences which, if they could be circularized, would prove very helpful to other operators.

Under these circumstances, could not some Club or Association be formed with the main purpose of promoting an exchange of ideas and experiences between "Monotype" machine operators throughout the world?

I am sure there would be great scope for such an association, and that it would be the outlet for much helpful criticism and the means of broadcasting to all concerned the thousand and one little discoveries that are continually being made by operators, which, together, do so much to lighten the work and at the same time to advance the capabilities of the machine.

In large towns the membership of such a group would probably be of such proportions as to enable meetings and discussions to be held, and at the same time interesting lectures on the machine and the operation of latest inventions could be given, thereby enabling operators to keep an up-to-date knowledge of all the working principles.

Then again, at holiday time, there is always a great demand for operators, often for more than the Corporation can supply. Here again the local club would be able to keep in touch with any operator in the district who might be temporarily unemployed and would welcome the opportunity of doing a week's "locum" in the district.

The association I have in mind would interest itself solely with the technical and social life of its members, leaving the more political and economic aspects to those bodies better equipped to deal with such matters. By giving it some such name as THE UNIT CLUB, members and corresponding members would make this point clear.

Yours faithfully,

W. H. CRANE

"Jesmond", Dunchurch Road, Overslade, Rugby

THE MONOTYPE CORPORATION LIMITED

43 Fetter Lane, London, E.C.4
Telephone: Central 9224 (5 lines)

Representatives of The Monotype Corporation stand ready at any time to advise on methods of increasing output, special operations, etc., of "Monotype" machines and their supplies, and to furnish specimens, trial settings and advice on new type faces.

BRANCHES

Bristol	West India House, 54 Baldwin Street. *Bristol* 24452
Birmingham	King's Court, 115 Colmore Row. *Central* 1205
Edinburgh	45 Hanover Street. *Edinburgh* 32660
Manchester	6 St. Ann's Passage. *Blackfriars* 4880
Dublin	39 Lower Ormond Quay. *Dublin* 44667
Leeds	3 Stansfeld Chambers, Gt. George Street. *Leeds* 21355

OVERSEAS BRANCHES

China	The Monotype Corporation Ltd., 17 The Bund, Shanghai
India	The Monotype Corporation Ltd., 8 Waterloo Street, Calcutta: P.O. Box 305, Bombay: P.O. Box 336, Mount Road, Madras
South Africa	Monotype Machinery (S.A.) Ltd., 6 and 7 Boston House, Strand Street, P.O. Box 1680, Cape Town
Australia	The Monotype Corporation Ltd., 319 Castlereagh Street, Sydney, N.S.W.
New Zealand	210 Madras Street, Christchurch. (Representative) C. J. Morrison
Egypt	P.O. Box 1010 Cairo, 1780 Alexandria. (Representative) Joseph Lindell

CONTINENTAL ADDRESSES

France	Société Anonyme Monotype, 85 Rue Denfert-Rochereau, Paris (XIV^e^)
Germany	Setzmaschinen-Fabrik Monotype G.m.b.H., Berlin SW68, Dresdener Strasse 41/42
Holland	The Monotype Corporation Ltd., 142 Keizersgracht, Amsterdam
Switzerland	The Monotype Corporation Ltd., 63a Nauenstrasse, Basle
Belgium and Luxembourg	T. Roegiers, 28 Rue Archimède, Bruxelles (Belgium)
Czechoslovakia	Ing. Robert Jockel, Kostelni ul. 10, Prague VII
Denmark	Harry Løhr, Amagertorv 29, Copenhagen
Finland, Esthonia and Latvia	Kirjatehollisuusasiomisto Osakeyhtiö, Kalevankatu 13, Helsingfors (Finland)
Hungary	Offenberger Miksa, Dalmady Győző Ucca 7, Budapest IV
Italy	Silvio Massini, Via Due Macelli 6, Roma
Norway	Olaf Gulowsen A/S, Grensen 5/7, Oslo
Poland	Interprint Bronislaw S. Szczepski, ul. Królewska 23, Warszawa
Roumania	Henry and Emanuel Fränkel, Strada Smârdan 4, Bukarest I
Sweden	Maskinfirman Monotype, Harald Pettersson, Jakobsbergsgatan 28 II, Stockholm
Portugal	Ahlers, Lindley Lda, 13 Rua Bernardino Costa, Lisbon

We beg to remind our friends and the Trade generally that the word MONOTYPE *is our Registered Trade Mark, and indicates (in this country) that the goods to which it is applied are of our manufacture or merchandise. Customers are requested to see that all keyboards, casters, accessories, paper, and other goods of the kind supplied by us, bear the Registered Trade Mark in guarantee that these are genuine.*

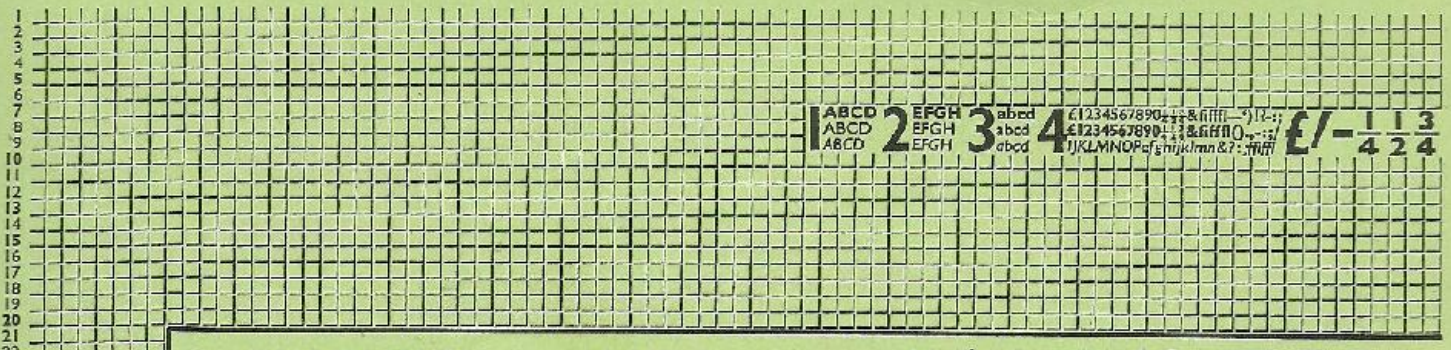
Note that one set of these matrices in 6 pt. will provide charts of SIX POINT 6 set, 6¼ set, 6½ set or 6¾ set, and also of 6½ PT., 7 PT., and 7½ PT., IN ANY SET UP TO 7¾ SET, ACCORDING TO BODY & SET ON WHICH THEY ARE CAST

S6046 S6047 S6048 S6049 — 6 point, 8 point

"QUADLINES": SEE PAGES 14-15 IN THIS NUMBER

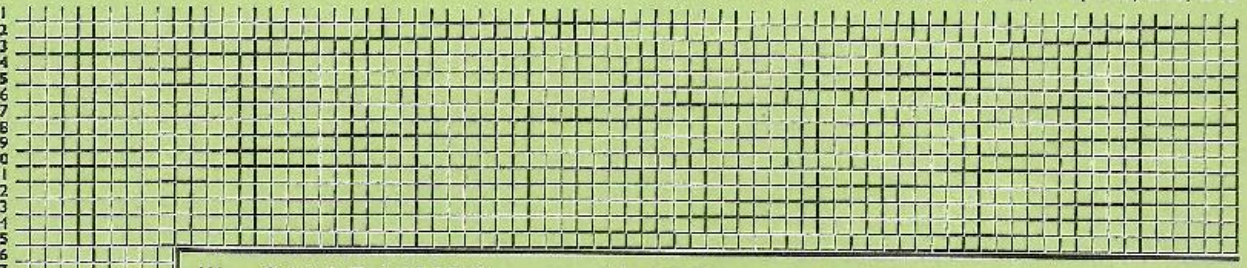
I: QUADLINES OF A 6½ SET SIX POINT:

e.g. the six point size of "Monotype" GILL SANS Normal 262, Bold 275, Light 362; Bodoni 135 and 260; Centaur 252; O.S. No. 2; Cloister 272 and others INCLUDING "COMBINATION 2482", in which 6 alphabets of Gill 6 pt., with many figures and signs are combined in the matrix-case with 18 pt. price figures, fractions, etc.



II: QUADLINES OF A 6 SET SIX POINT:

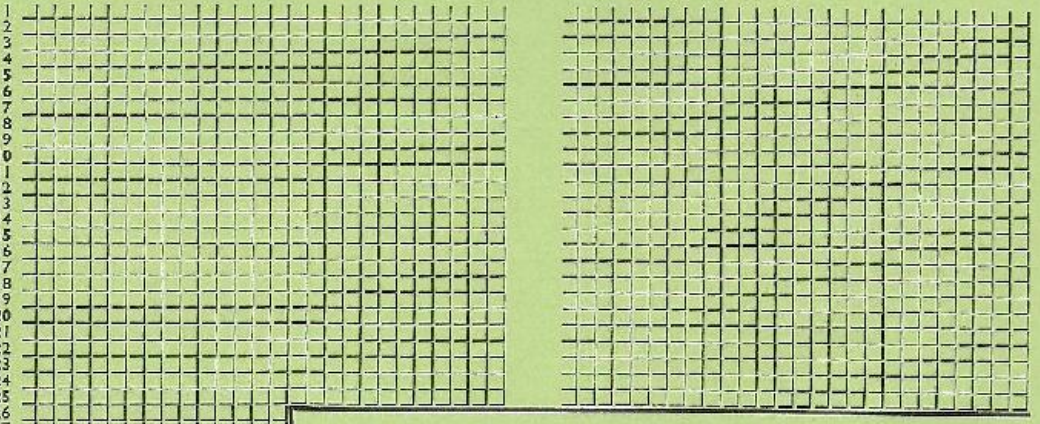
e.g. the six point of Garamond 156 or 174; Gloucester 99, 158, 152, 103, 172, 198, 266, 243



III: QUADLINES OF A 6¾ SET SIX POINT:

(Set up in double column, as for a periodical, catalogue, or price list)

e.g. the six point of "Monotype" Albion No. 5; Bembo 270; Baskerville 169, 312; Bold Face 53; Clear Face Bold 157; Cloister Bold 271; Gloucester Bold Italic 160, 55; Goudy Bold 441; Goudy O.S. 291; Horley 199, 261; Ionics 342, 184, 451; Italian O.S. 108; 149; Modern No. 1; Rockwell 371, 391, 390; Ronaldson 10; Times 327, 334, 360.



IV: QUADLINES OF A 7¾ SET SEVEN PT.:

e.g. the seven point of Times 327, 427, 334, 345.