

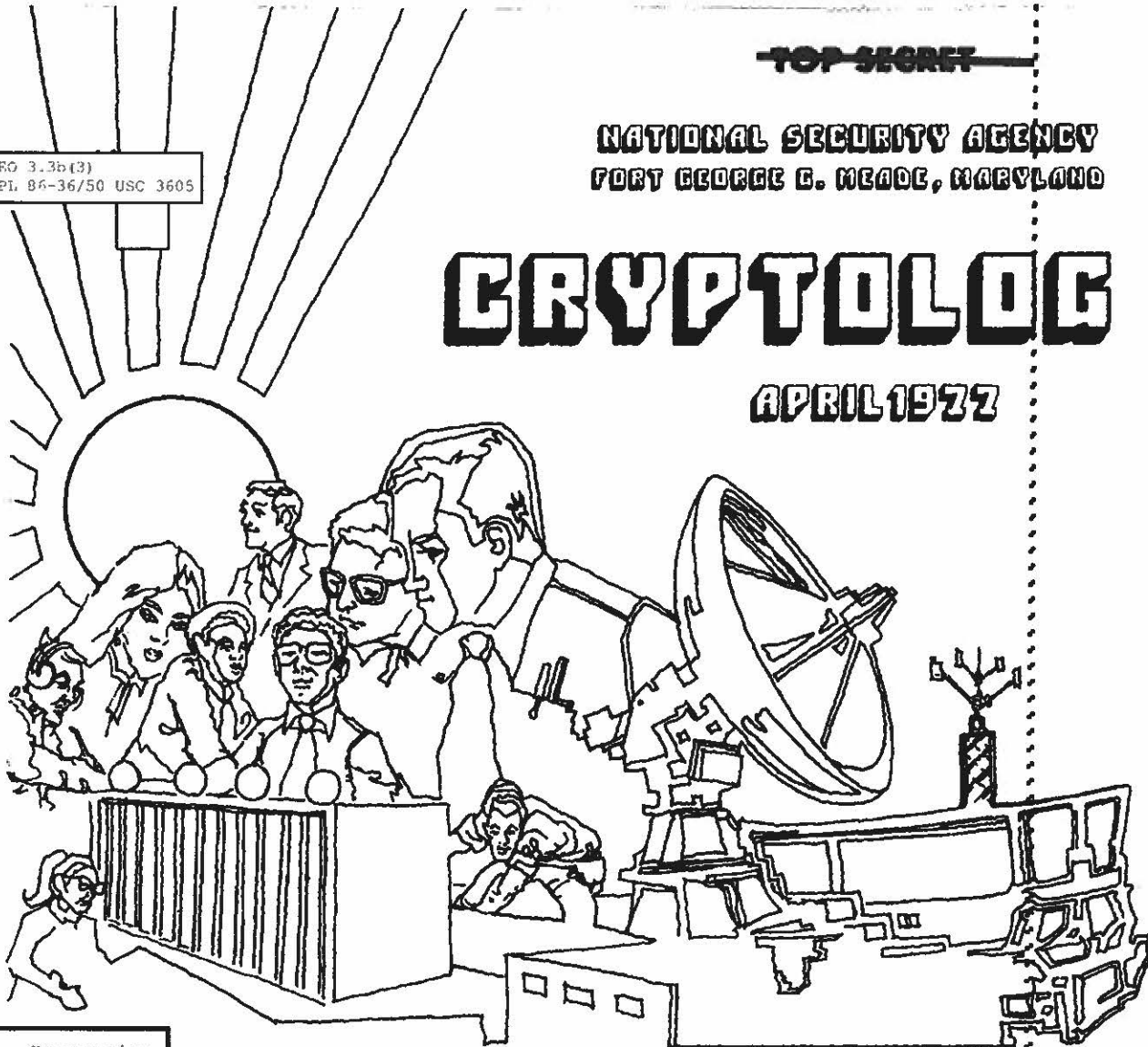
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NATIONAL SECURITY AGENCY  
FORT GEORGE G. MEADE, MARYLAND

# CRYPTOLOG

APRIL 1977



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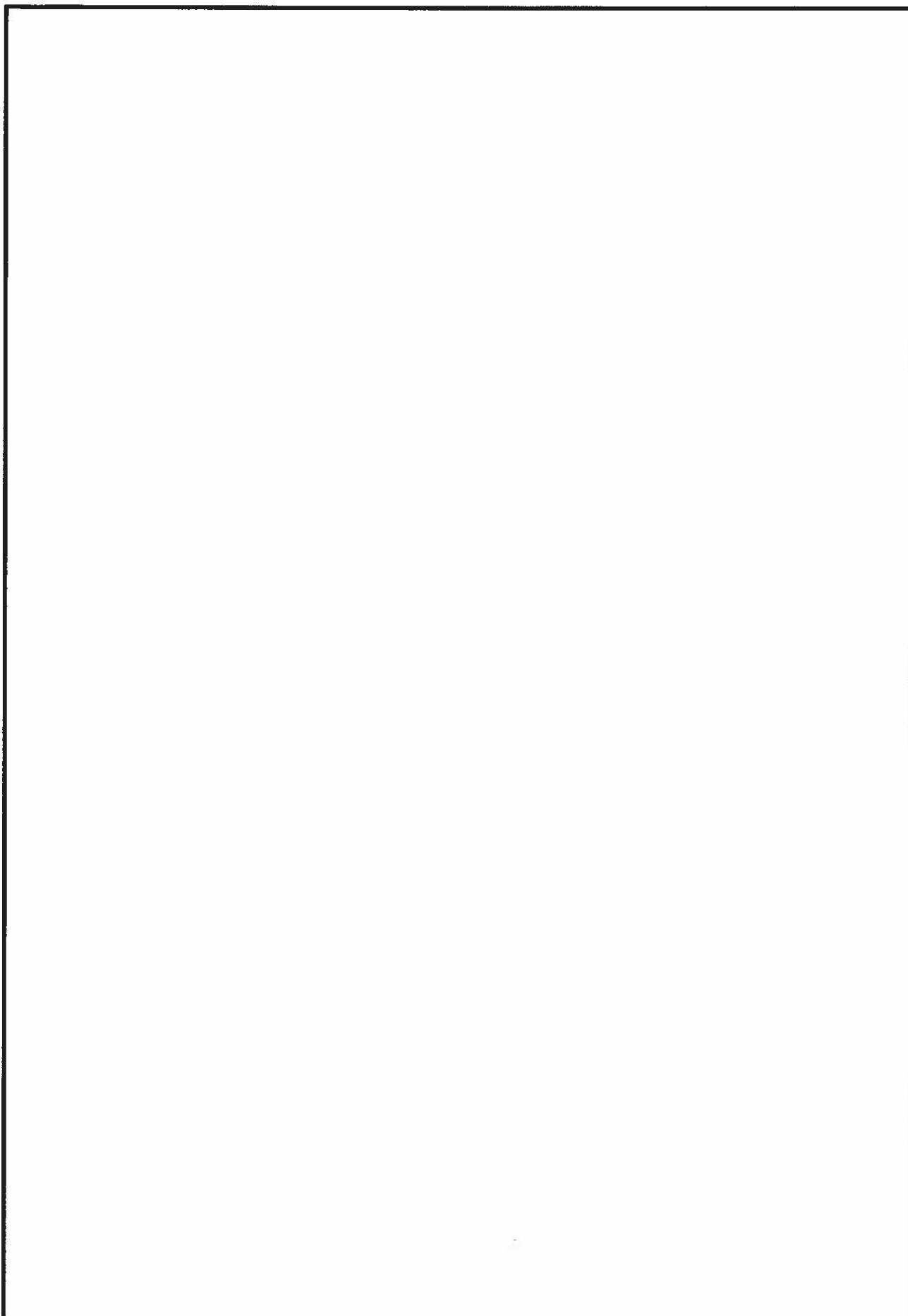
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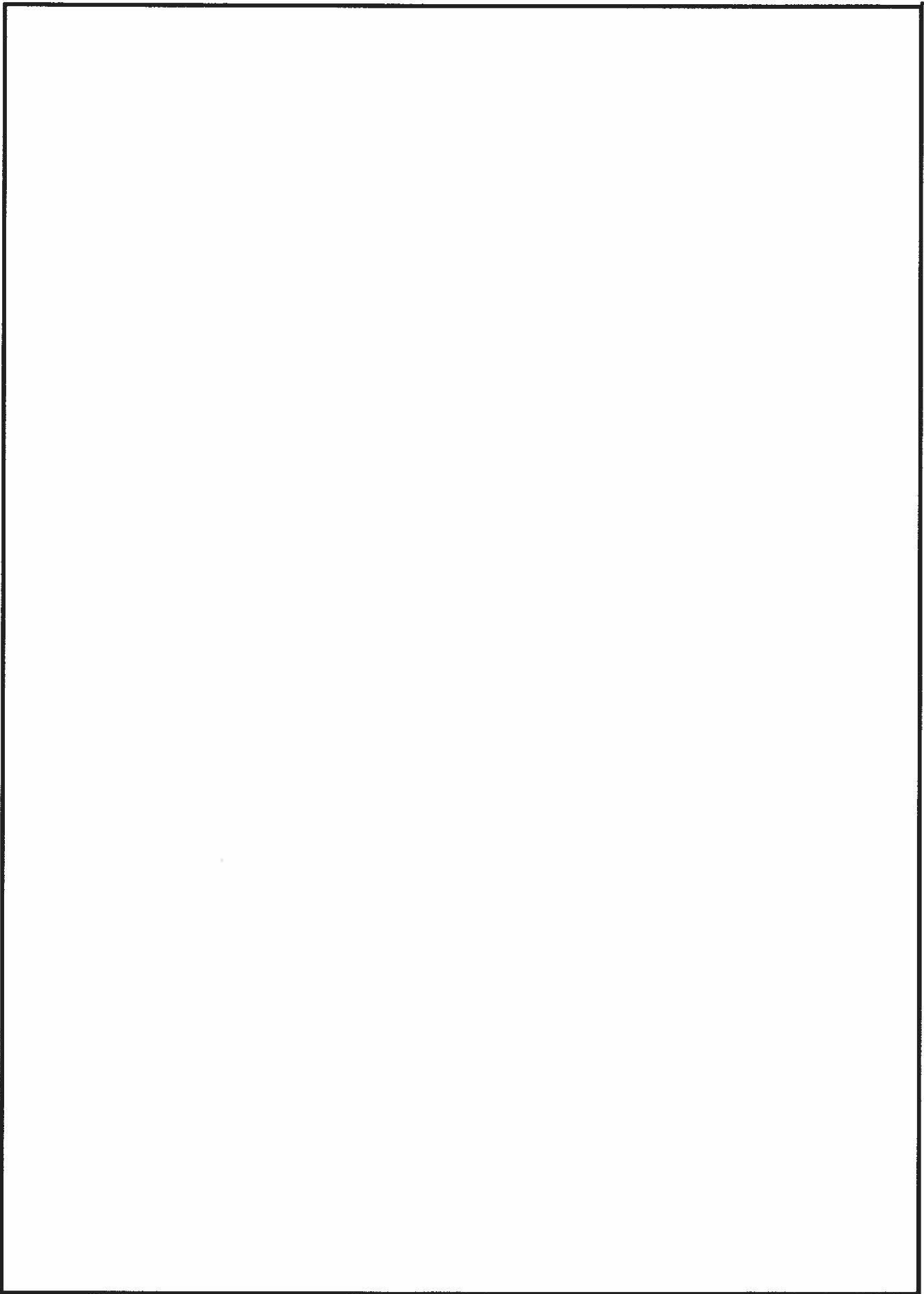
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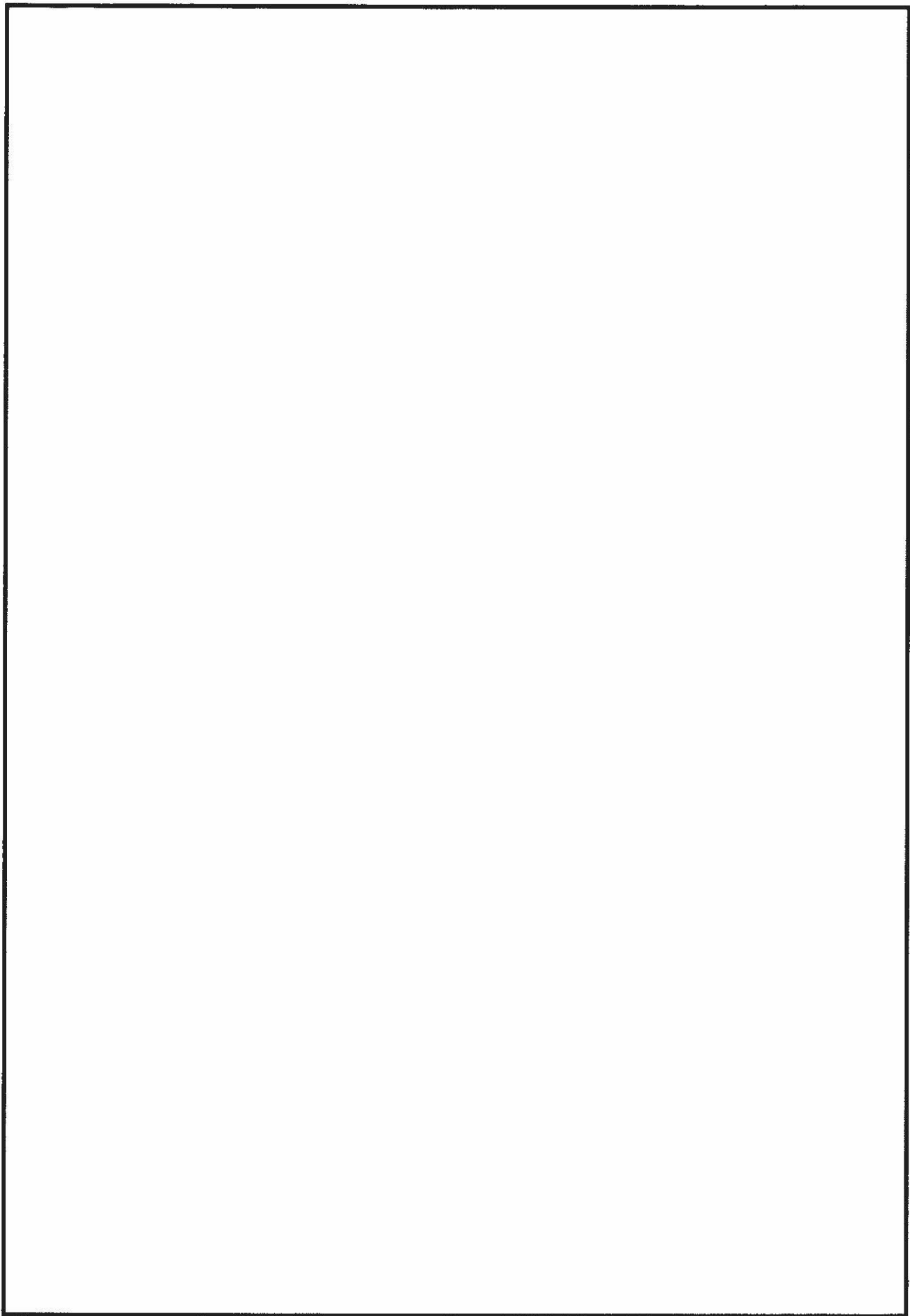
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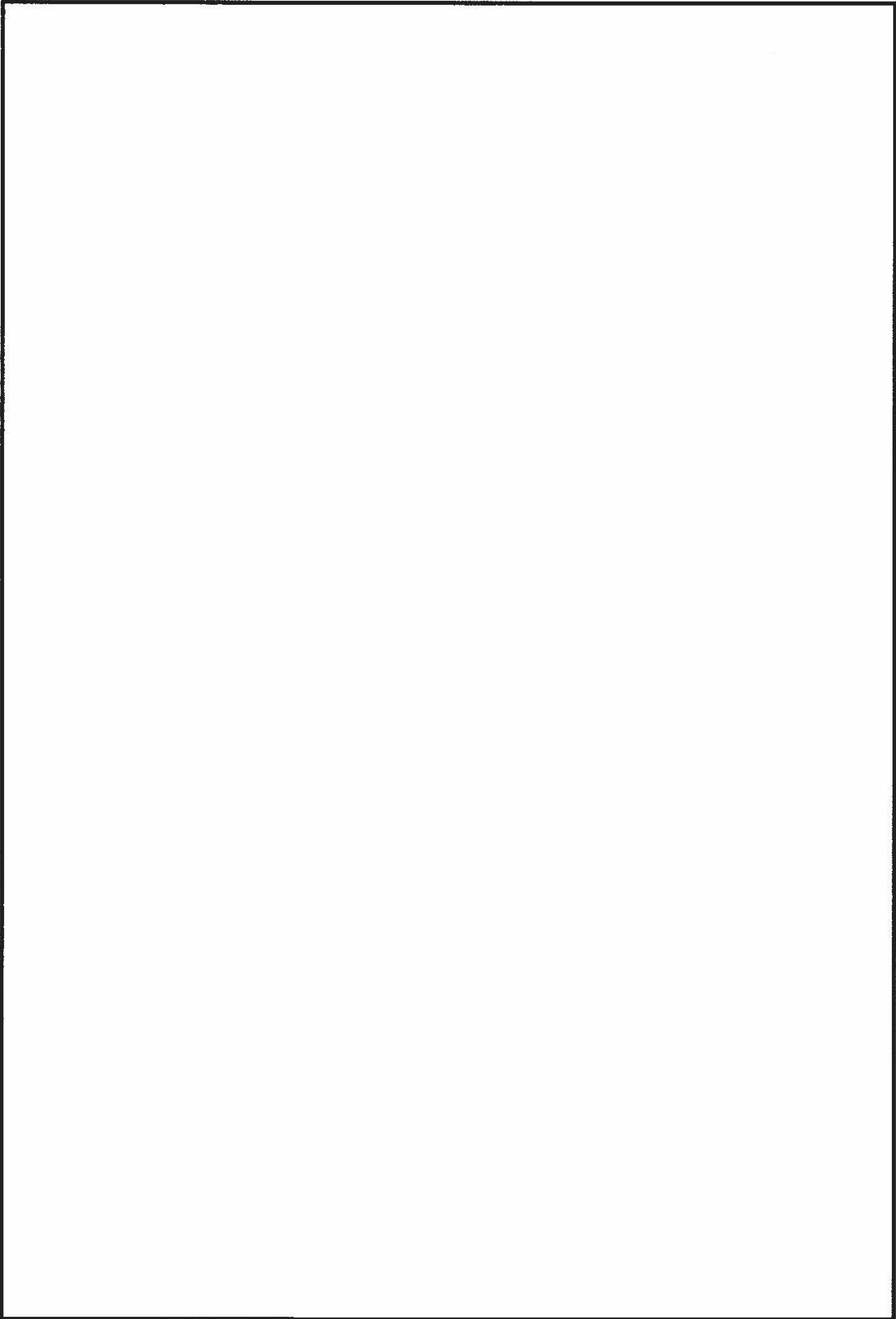
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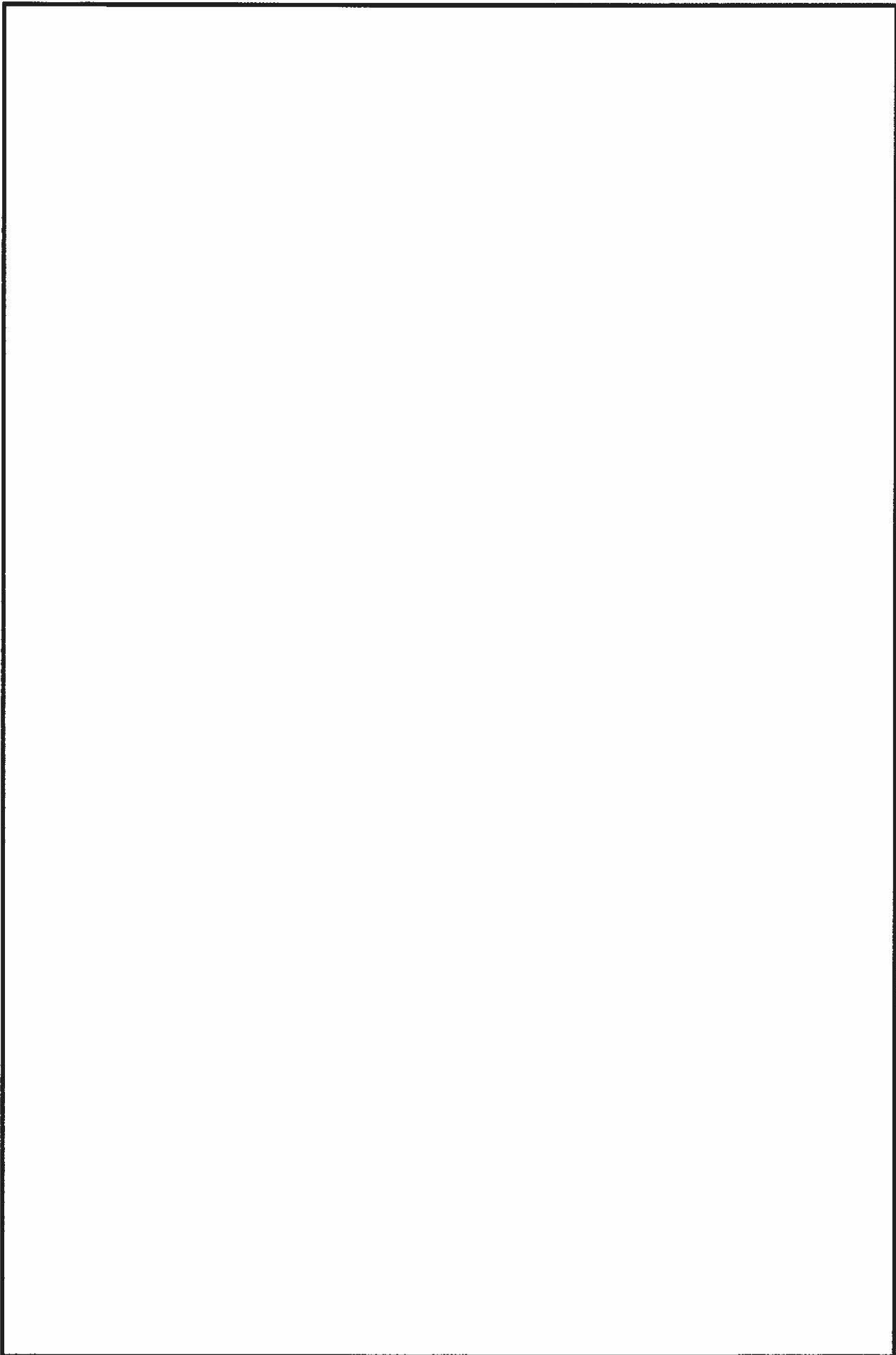


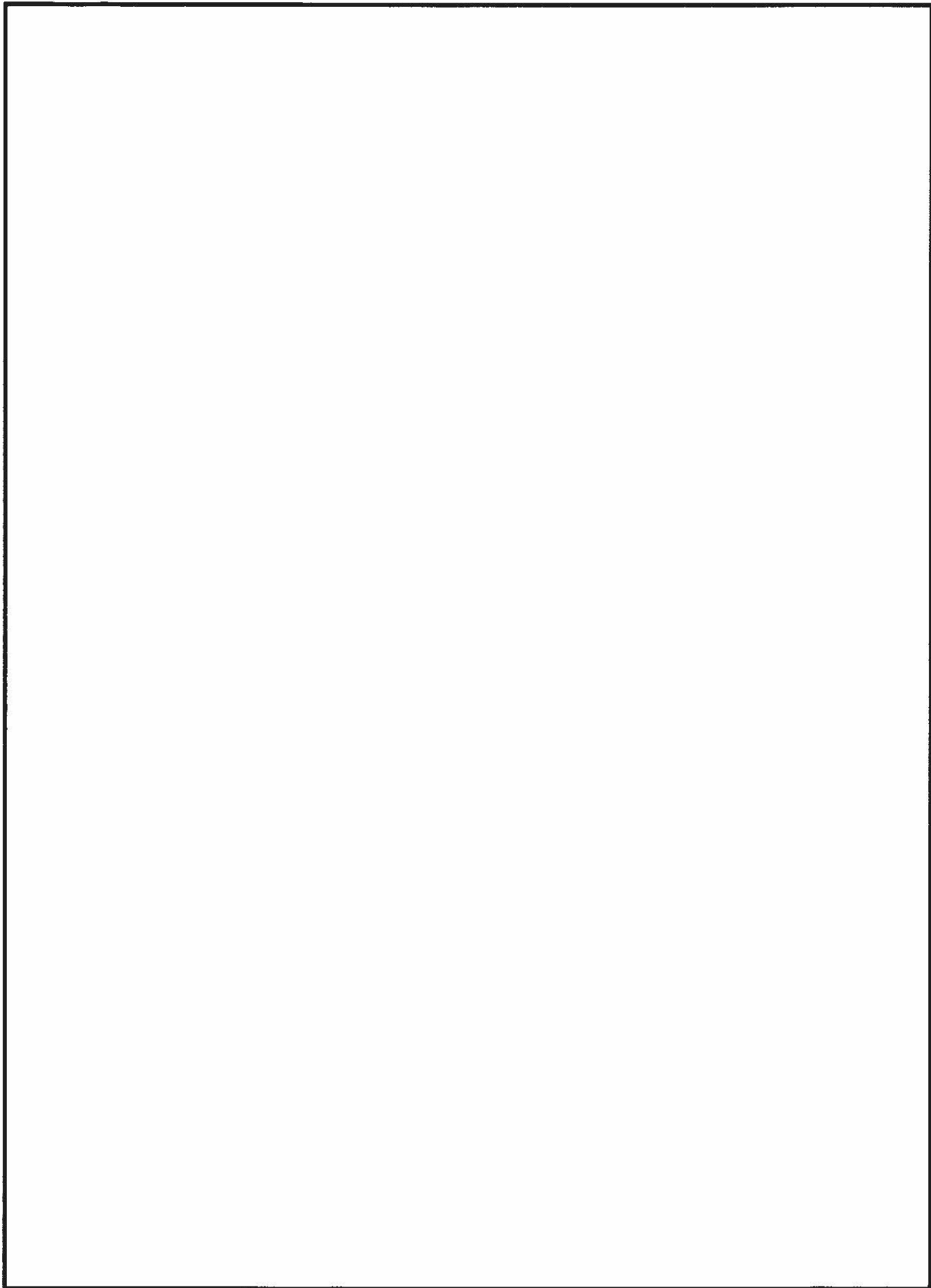




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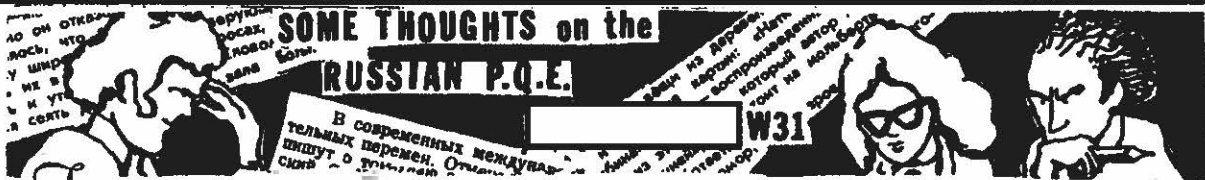
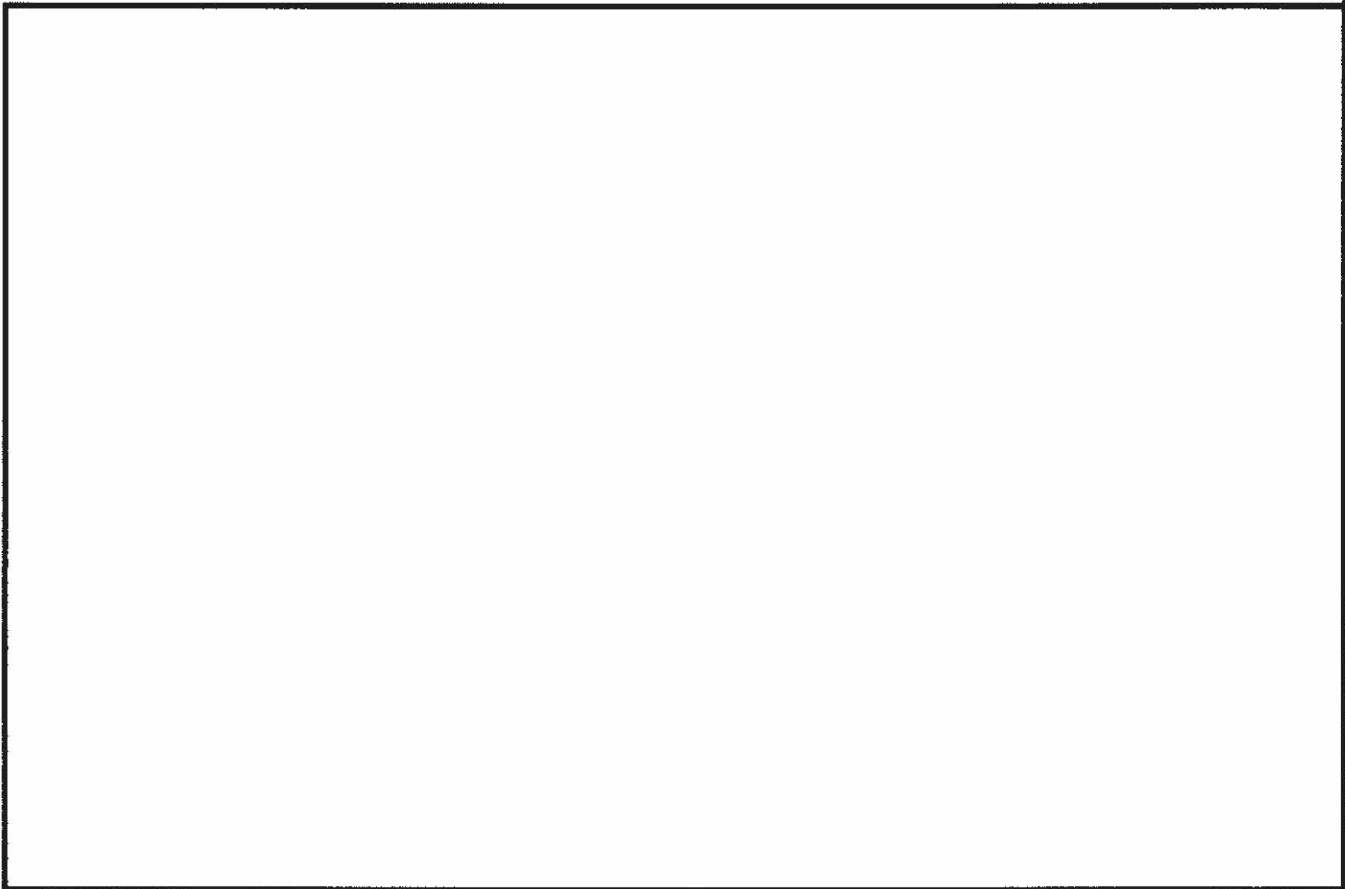






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The Russian Professional Qualification Examination (PQE) is a topic guaranteed to stimulate lively discussion among NSA's Russian linguists. And if you want to get into a really heated conversation, spend an hour or so with an aspirant who has failed a portion of the PQE more than once -- he will have a definite opinion on what can be done with the PQE. The frustration, despair, and anger of such an aspirant are understandable for, it seems to him, his career advancement and promotion are inseparably linked with passing the test. To some, particularly those who have been with NSA for only a few years, the PQE becomes the added frustration that makes working at NSA almost unbearable. Unfortunately (perhaps fortunately in some cases), some linguists eventually begin boycotting the tests; others seek job reclassification to pursue a career elsewhere. The loser in such cases is NSA because, usually, large investments in time and money have been made to train the aspirant to become what he will not be if he abandons the language career field.

For this reason, and because language professionalization is a particularly timely topic, I would like to share with CRYPTOLOG readers a sampling of the opinions expressed by discouraged aspirants. Some expressed feelings which are no more than vague complaints about the "unfairness" and "irrelevancy" of the PQE; others have voiced more compelling evaluations and arguments. It is my intention here to note only those valid and reasonable complaints which are, in my opinion, worthy of the Language Career Panel's consideration. The audience I have in mind is those Agency linguists who are receptive to criticism and who are in a position to effect meaningful changes in PQE policy. I also wish to address the aspirants, those who are finding it difficult to pass all parts of the PQE, and those who will soon be taking the tests for the first time, to ask for their forbearance as well as their suggestions, and to reassure them that the "test-makers" are aware of their frustration and are striving to devise better tests.

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There is clearly a need for a testing program to determine which Agency linguists are of a "professional" caliber. Academic credentials alone are not enough. However, the effectiveness of Parts IIA and IIB in particular in filling this need is clouded by the following factors:

- the majority of aspirants have had no practical experience in working with the kinds of materials on which they are being tested -- in many cases they may never be required to work with such materials;
- there is no existing training program to prepare aspirants for Part IIA (classified translation);
- present NSA reporting policy discourages the publishing of translations, and those that are published from operational units are generally subjected to as many as three levels of language check;
- available training packets for Part IIA do not include model translations with which the aspirants studying for the examination can compare their own efforts;
- an alarming number of professionalized linguists are unwilling, perhaps unable, to help aspirants prepare for the examination;
- there is at present no standardized method of establishing a pass-fail threshold for Part IIA -- thus giving rise to the likelihood of test grading being reduced to a subjective exercise;
- it is becoming increasingly difficult to find suitable materials for the testing program due to compartmentalization and other problems.

In this light we need to ask ourselves a few searching questions. Such as, does a "pass" on either Part IIA or IIB tell us with any certainty that an aspirant is a professional linguist? Or does it tell us only that the aspirant has finally succeeded in passing the test? And, finally, how many professionalized linguists could pass the test a second time? There are no clear answers to such questions, but, on the basis of the large number of linguists who repeatedly fail, it is obvious that, for many Agency Russian linguists, Parts IIA and IIB in their present form are a formidable, perhaps an unfair, barrier to the professionalization which has become an important criterion for promotion.

There are, of course, many who feel that the ranks of certified linguists should in fact be elitist (i.e., few in number) and that Parts IIA and IIB are especially crucial in determining which linguists are the professionals. Others, including myself, feel that most Agency Russian linguists should ultimately be professionalized, even if extraordinary efforts must be made to bring them up to the desired level of competence. Since it certainly appears that

Parts II and IIB of the PQE are the major roadblocks to increasing the total number of L3 Russian linguists, it behooves all of us to scrutinize the testing policy, and to determine what can be done to increase the annual yield of L3 linguists.

Ostensibly, the purpose of the Russian PQE is to identify those linguists whose language work can reliably be said to be of a "professional" level and who clearly demonstrate an ability to handle a diversity of language tasks. The work of such a linguist should in theory require little or no language check and could, conceivably, be a releasable NSA product. But in practice this is not what happens. NSA generally does not publish translations and we are for the most part specifically instructed to conceal the fact that our reports are derived from communications intelligence. Too, it is unlikely that any Russian linguist would be required to be solely responsible for the transcription or translation of an important conversation. When faced with a difficult language task, a truly professional linguist will always seek the advice and help of others equally or better qualified. But in a test situation no such recourse is available, nor can an aspirant in the course of an examination avail himself of a technical library. The aspirant willy-nilly decides which dictionaries and aids to bring with him to the examination. If he guesses wrong about what technical fields will be reflected in the test materials, he will discover that he has the wrong aids for the particular test placed before him. We have all seen aspirants carrying mountains of books to a PQE in the hope of covering all contingencies. No true test of a linguist's ability should hinge on luck. This problem can, of course, be easily remedied by specifying what aids an aspirant should bring to the test and then ensuring that those aids deal with all the Russian language problems to be encountered in the examination (vocabulary, technical terminology, place names, etc.). There are indications that this will be the case in future PQEs.

A major problem with Part IIA stems from the lack of an organized course of instruction aimed at preparing aspirants to take the test. A transcriber-aspirant can prepare for Part IIB (classified transcription) by completing course RS220, Intermediate Russian Transcription. He can also make use of the training materials available in A64. In the case of Part IIA, however, no comparable training program exists. RS200, Intermediate Russian Translation, once included a segment on classified translation, but this was discontinued several years ago. A classified translation course could either be offered by the National Cryptologic School, or, conceivably, it could be organized and taught within production organizations by professionalized language analysts. A likely source of instructors would be those who have recently received certificates of professionalization. By requiring a professionalized linguist to teach

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a course of classified translation, we would be insuring that they do indeed know the ins and outs of [redacted] conversations and [redacted] messages, and, hopefully, this would negate the frequently voiced allegation that many professionalized linguists themselves do not know a great deal about these things and could not pass the PQE a second time. And, of course, the aspirants would be much better prepared for the test.

The translator-aspirant can also use the Part IIA study packet available in the A62 library to study for the test. But there are not enough packets to go around and, invariably, there are aspirants who do not manage to obtain a packet. These packets, however, are only marginally helpful -- though obviously better than nothing -- in that there are no model translations with which an aspirant can compare his own efforts. Many aspirants complain that they truly do not know what a finished translation should look like. Thus, to eliminate this problem we should provide every aspirant with his own personal study packet and make model translations available so that an aspirant can learn by doing. It would be advisable to keep the models separate from the study packet and to suggest to the aspirant that he first translate the sample texts and then obtain the model to see how well he has done.

Many aspirants argue that Parts IIA and IIB actually measure experience rather than language ability and that the responsibility for evaluating experience rightly belongs to the operational unit to which a linguist is assigned. There is clearly some merit in this line of reasoning, but, on the other hand, it is clearly advantageous to the Agency to have a corps of linguists who can deal with a diversity of language tasks. The nature of language work at NSA is in constant flux and we must be prepared to move linguists from one job to another when necessary. Therefore, I feel that this argument is not valid and that, if a comprehensive training program is developed to prepare aspirants for Part II, then, hopefully, the basis for this kind of complaint should disappear.

Tied to this matter are aspirants' charges that they have failed Part IIA because they do not know the correct format. While I cannot speak for past Part IIA tests, I do not feel that this is currently true. I know that the panel of which I am a member would not fail an aspirant on "format" errors alone. In any event, model translations of the sample PQEs will clarify the format expected from them.

Test grading, which might superficially seem to be a straightforward matter, is in fact a sticky business. In the case of the Part IIA panel to which I belong, we discussed at great length what we intended to look for in the papers we were to grade. Our unanimous decision was excellence in the translation of the [redacted] conversation and the [redacted] message. We gave somewhat less weight to the translation-gist, which was a new concept in the test we put

together. In grading we relied heavily on the translation grading system recommended by James R. Child and Emery Tetrault in their article, "Scoring Translations" (*Q\*RL\**, November 1973, p. 23). However, in the case of SIGINT translation I feel there is a need to draw up some additional guide lines dealing specifically with classified translation. (I am in fact trying to do just this at the present time.) But, as Child and Tetrault point out, total "objectivity" in test grading is impossible. We are, therefore, temporarily stalemated in grading Part IIA of the PQE and can only do our very best to render a fair pass-fail decision.

When I first picked up my Skilcraft-U.S. Government ballpoint pen, it was my intention to write a scathing polemic on why Parts IIA and IIB of the Russian PQE should be eliminated. I was convinced that this was the best solution to a bothersome problem. But, later, when I read over the dozen or so handwritten pages, I realized that I was suggesting that the problem be eliminated but was not addressing the reasons for the problem. Also, in discussing the matter with others, many of whom also felt that these parts should be abolished, I finally decided that Parts IIA and IIB should *not* be eliminated because NSA, as a producer of SIGINT, must have some system of identifying its best linguists. Until a better method is developed, we are stuck with the PQE for establishing the standard.

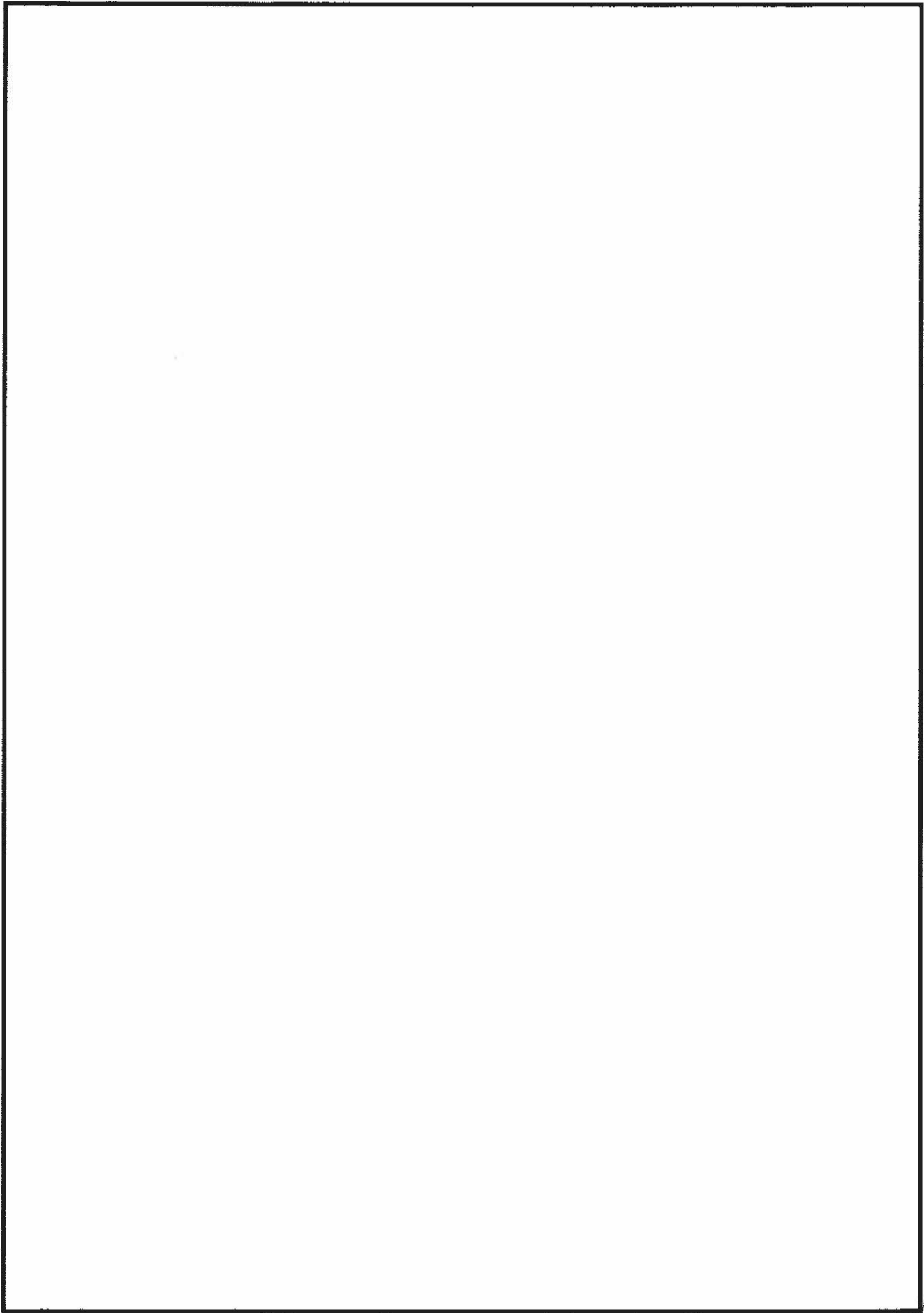
I sheepishly admit that my initial reaction was prompted in part by my reluctance to get involved in grading test papers and my even greater reluctance to face irate aspirants in counseling sessions.

But, even though I have changed my mind about the value of Parts IIA and IIB, I am still convinced that in their present form they leave much to be desired. The Language Career Panel and the PQE committees must take steps in the very near future to improve the PQE. The percentage of "passes" on Part IIA is far too low to be acceptable. A 25-30 percent pass rate should be our target, and this goal should be achieved not by lowering our standards, but by raising the skill level of aspirants through training and guidance. This does not mean, of course, that every Agency Russian linguist can or should become a professionalized linguist; it means only that every Agency linguist should be given ample opportunity to become a professional. Once the Language Career Panel has fully met its obligations to the aspirant by offering him training and guidance, the final responsibility rests with the individual to prove himself.

I hope that this article will prompt CRYPTOLOG readers to respond with criticism and ideas. No system is so good that it cannot be improved, and surely the collective effort of NSA's linguists can lead to substantial improvements in the PQE program.

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# THE LAST WORD ON IATS?

CECIL PHILLIPS, C03

When I wrote the article about the AG-22 and IATS (CRYPTOLOG, March 1976) it did not occur to me that what I was saying would be so provocative, although I knew many people disagreed with my point of view -- especially the idea of having the operator exercise more judgment and format the data more rigidly. Perhaps my problem was that I was working from the wonderful state of being an "expert," without any actual experience as a Morse intercept operator. At any rate, it is clear that both ex-operators and traffic analysts used to working directly with the traffic felt I was off-base in any idea of further "gisting" or formatting of traffic.

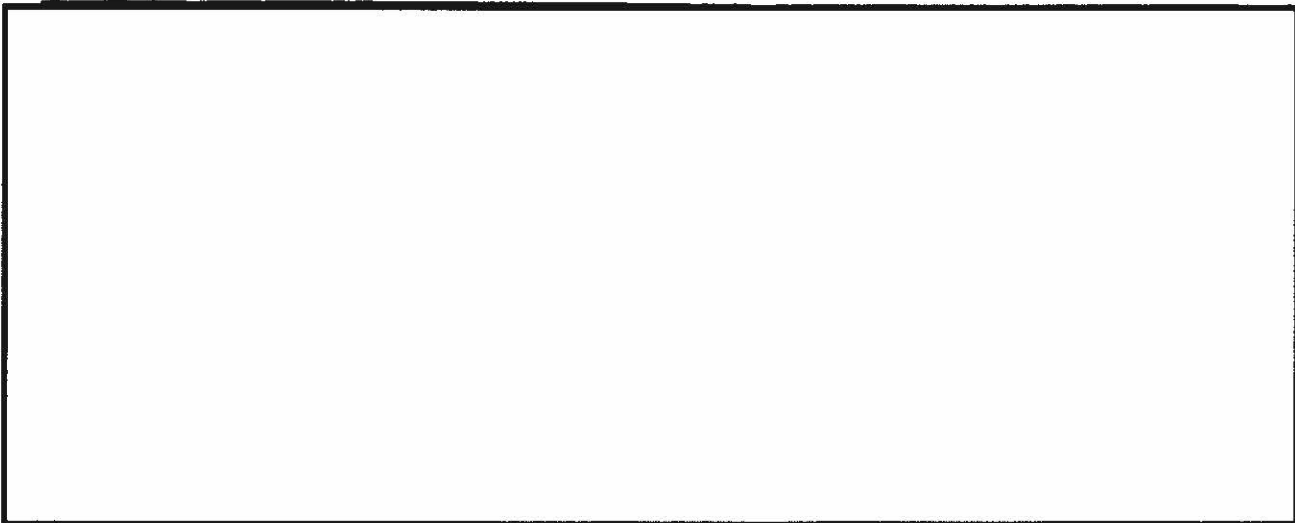
What provoked me to write the article was the innumerable complaints I have heard about some of the Morse data bases generated automatically from IATS input. I will stick my neck out again and say that I believe the quality of many of these data bases is very poor. In some cases, this poor quality is obscured because manually prepared inputs from U.S. and 2nd and 3rd party sources in the form of TECSUMs, STRUMs, etc. is of much higher quality. Further, the poor quality may be unnoticed in some cases because relatively little attention is paid to the Morse data base vis-a-vis the voice and printer parts of the data base. Still another factor may be that the portions of the Morse problem of particularly high interest are singled out for special attention -- such as either the hand-prepared reports mentioned above or just "direct" printing of the IATS input, which means that a large and costly system was built to replace a much simpler one, with little advantage except sorting.

It seems to me that the cost of the IATS-GAPS (Generalized AG-22 Processing System, implemented

on the IBM 370s), the almost endless SPECOL manipulation of the data base, the very high cost of on-line storage, and the staggering amounts of printed output mean that we ought to be getting something good out of the whole thing. My doubts that the system is good (that is, has analytical integrity and is timely) are based on the informal comments of analysts and the more formal complaints of external users who get "feedback" from the process. A related concern is that we are treating the whole input in such a gross manner that we obscure some quality portion of the files and that the sheer bulk of all of this processing causes delays in critical feedback processes and output to the analyst. A lot of data processing increases geometrically as the file size increases, so there is a chance of much better processing performance with smaller and more specific files. Since SPECOL retrievals are sequential-search, the same rule does not apply, i.e., run times vary arithmetically with file size, but more selective treatment of these files could probably cut "average" runs to less than one-tenth of present run times.

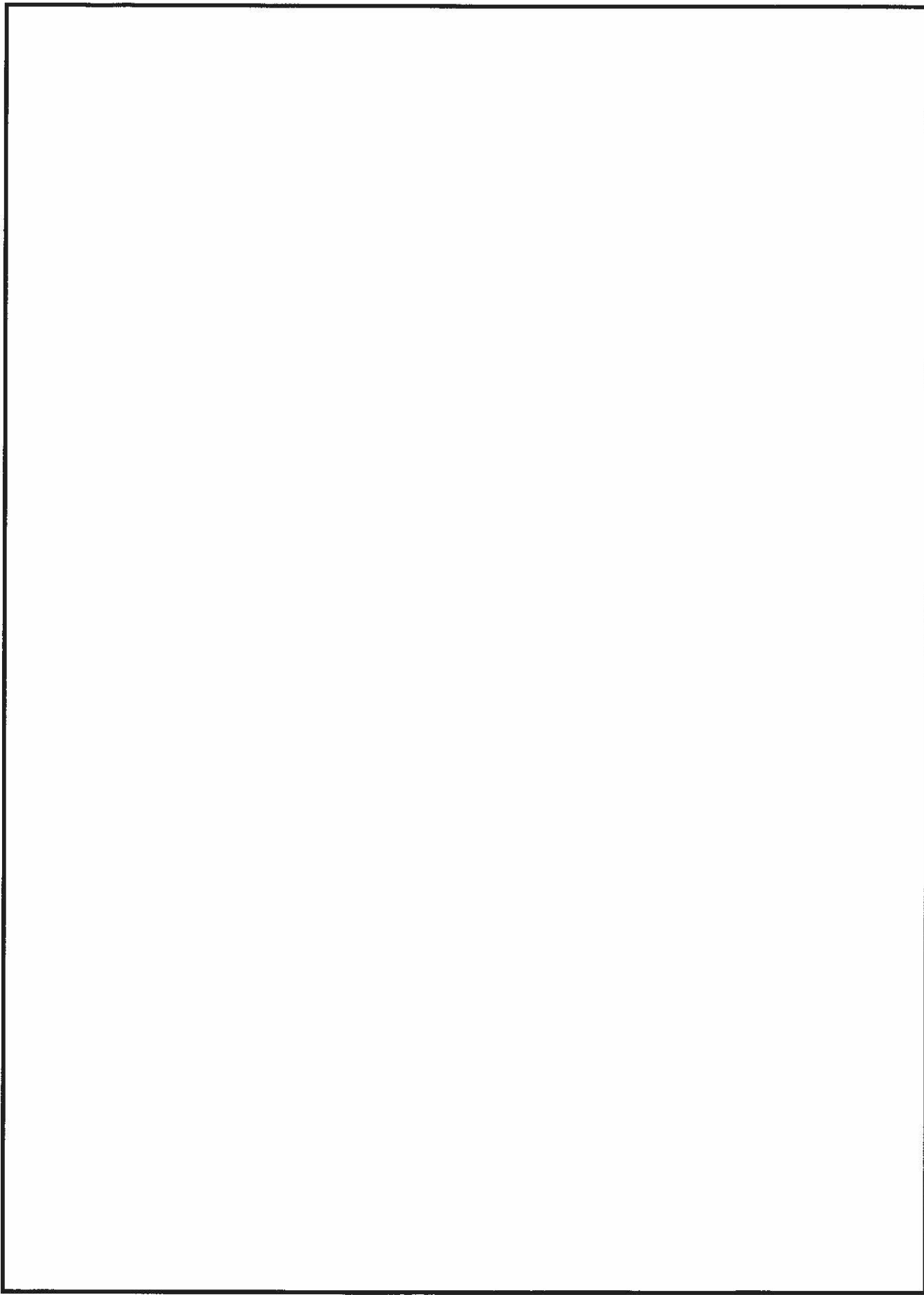
In summary, I believe that more can be done than we are now doing, without an increase of resources. Better computer edits and more man-machine interaction will require additional man and machine resources, but I think most of these could be saved out of existing processes. Perhaps a series of sessions chaired by a senior analyst from a senior technical staff could come up with approaches better than those I have suggested above, or, alternatively, perhaps a few sessions of the Agency's most senior technical people would be able to assess the need for change. Will PI accept the challenge to lead such sessions?

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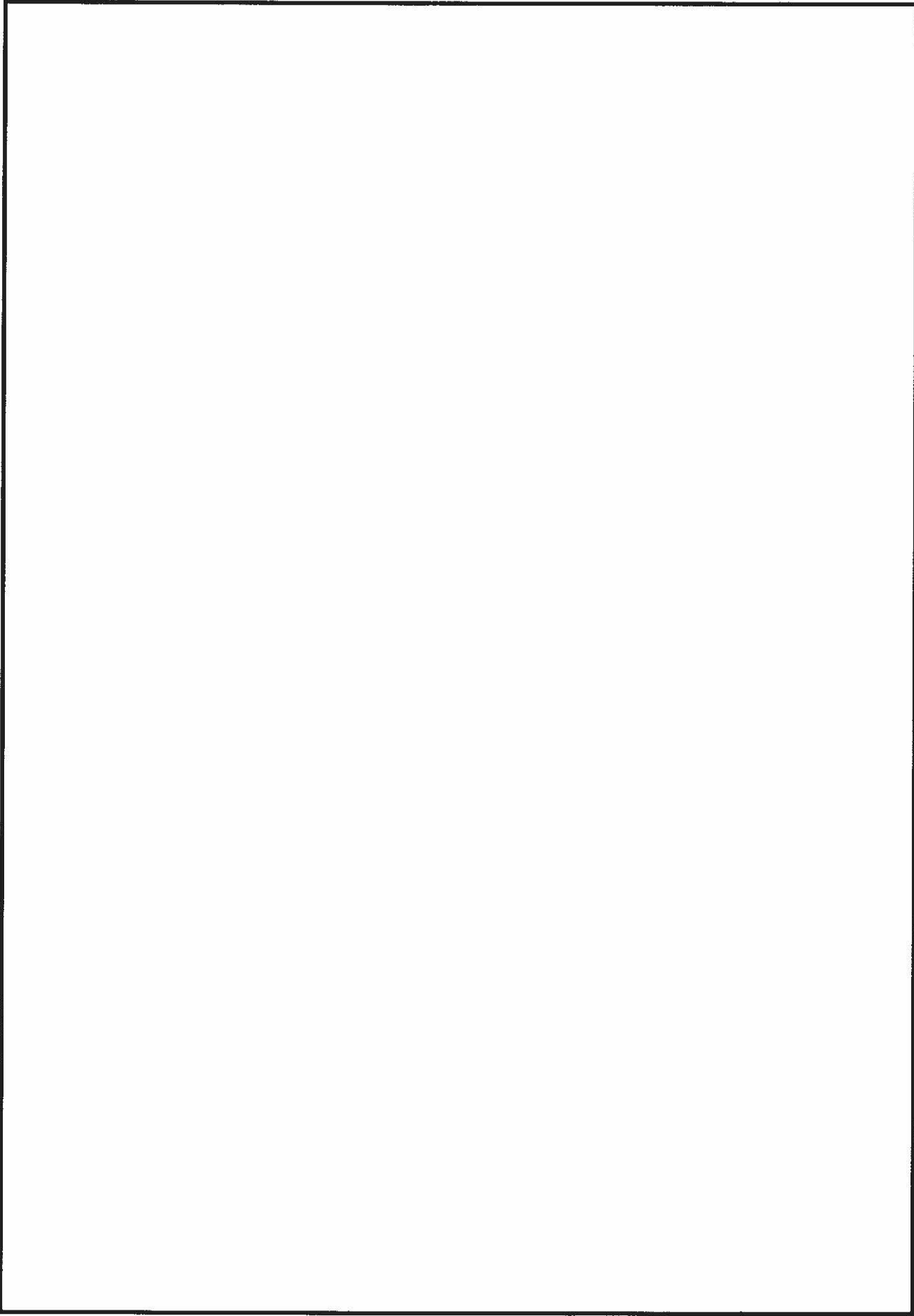
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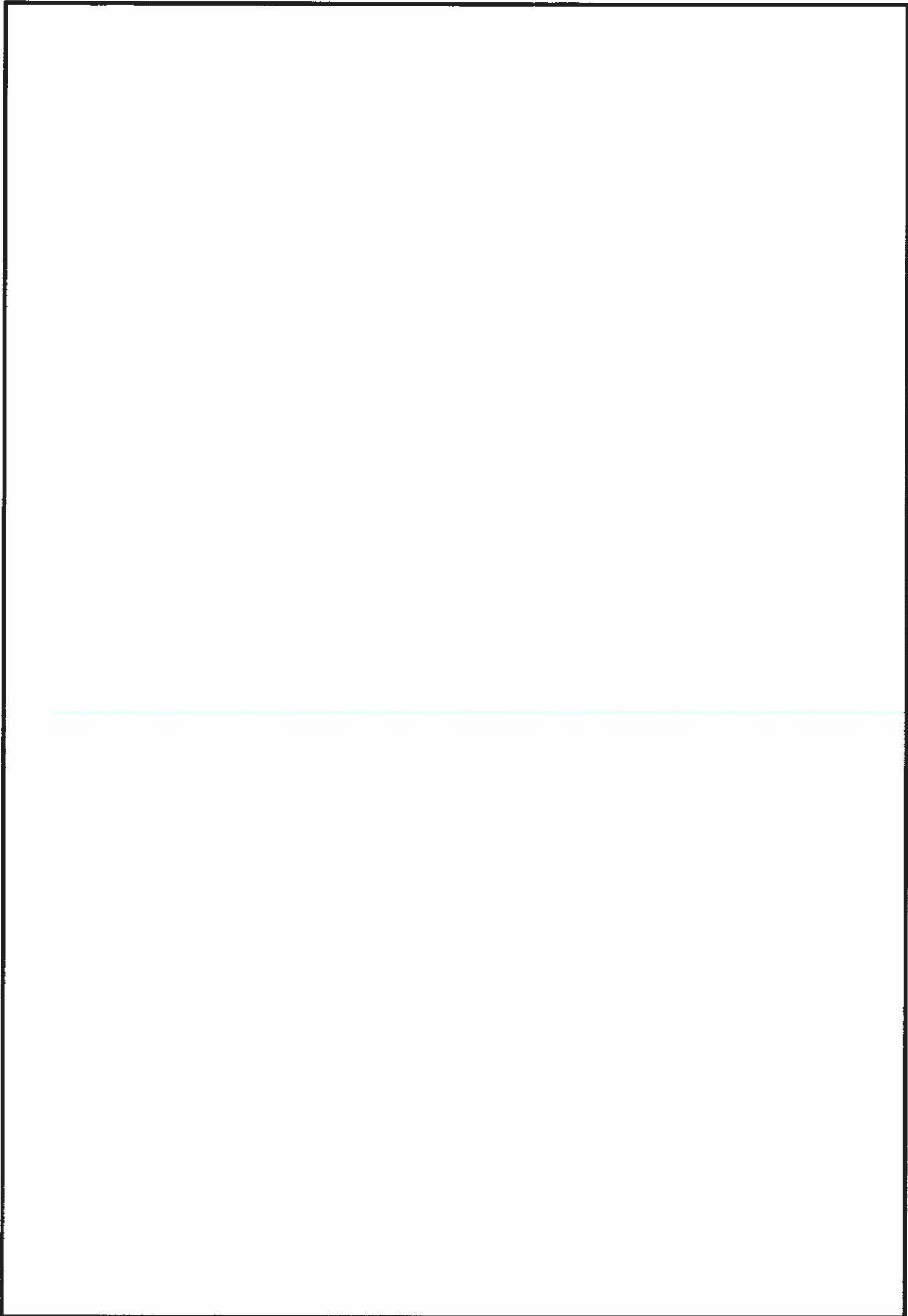


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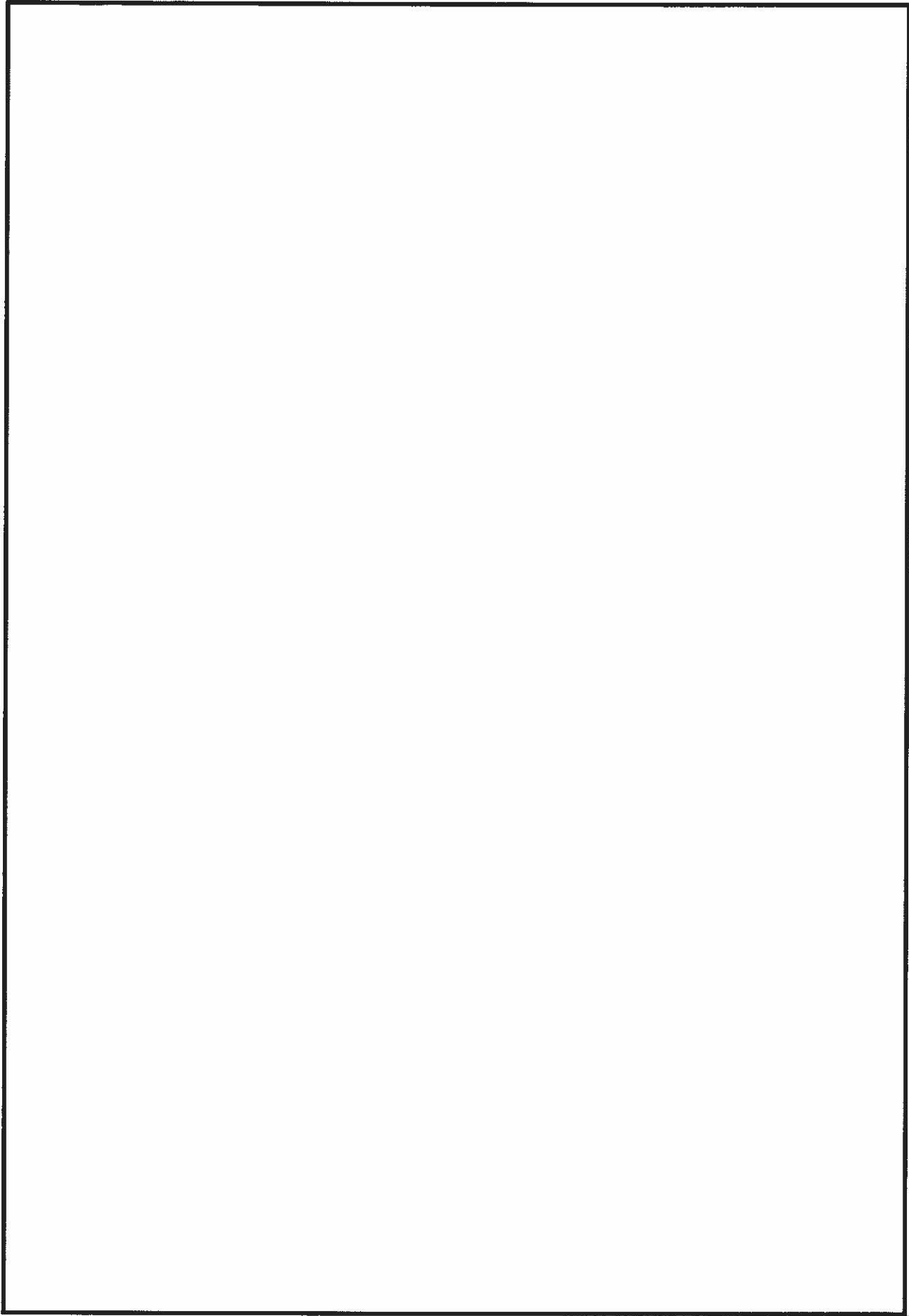




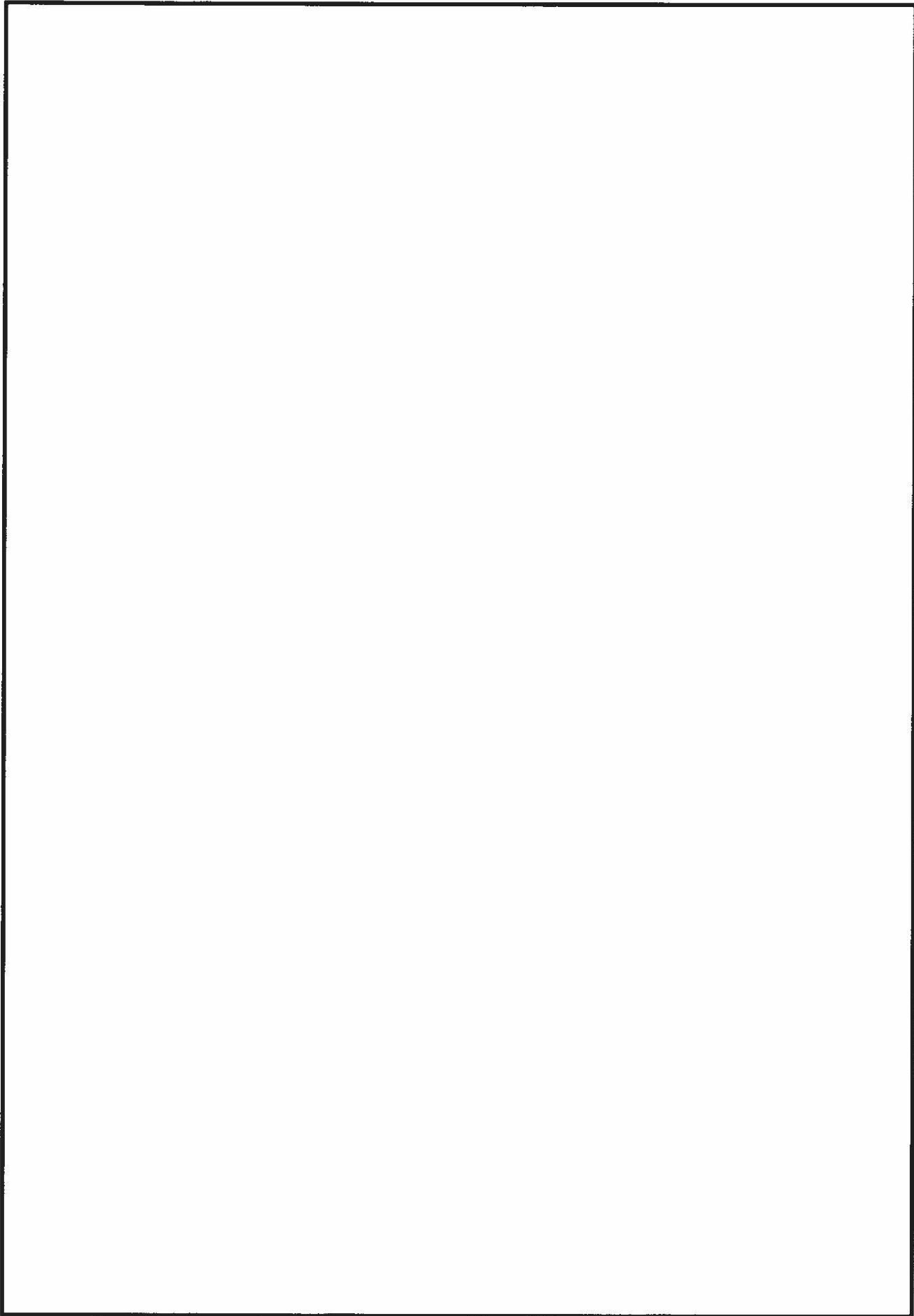
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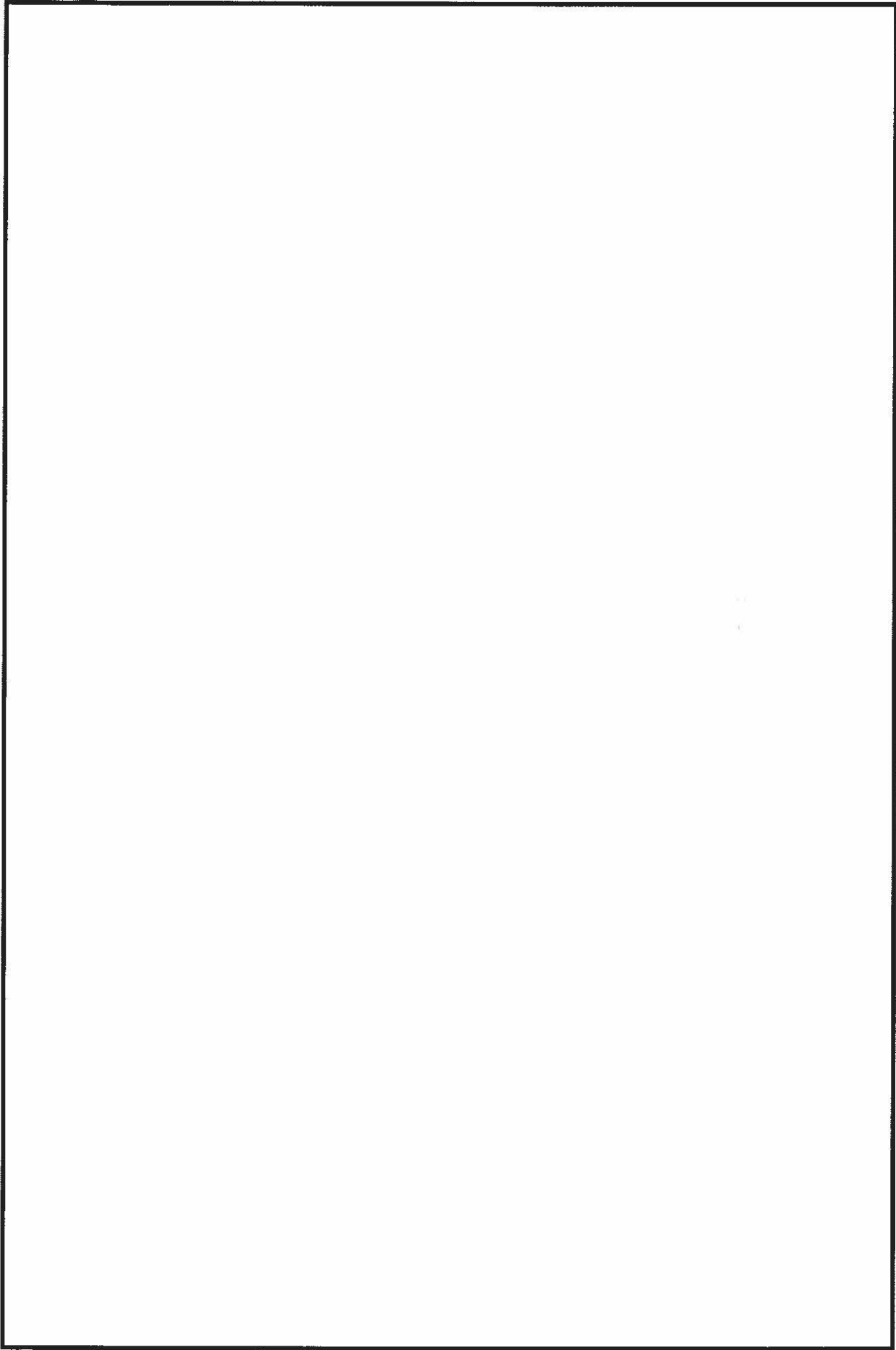
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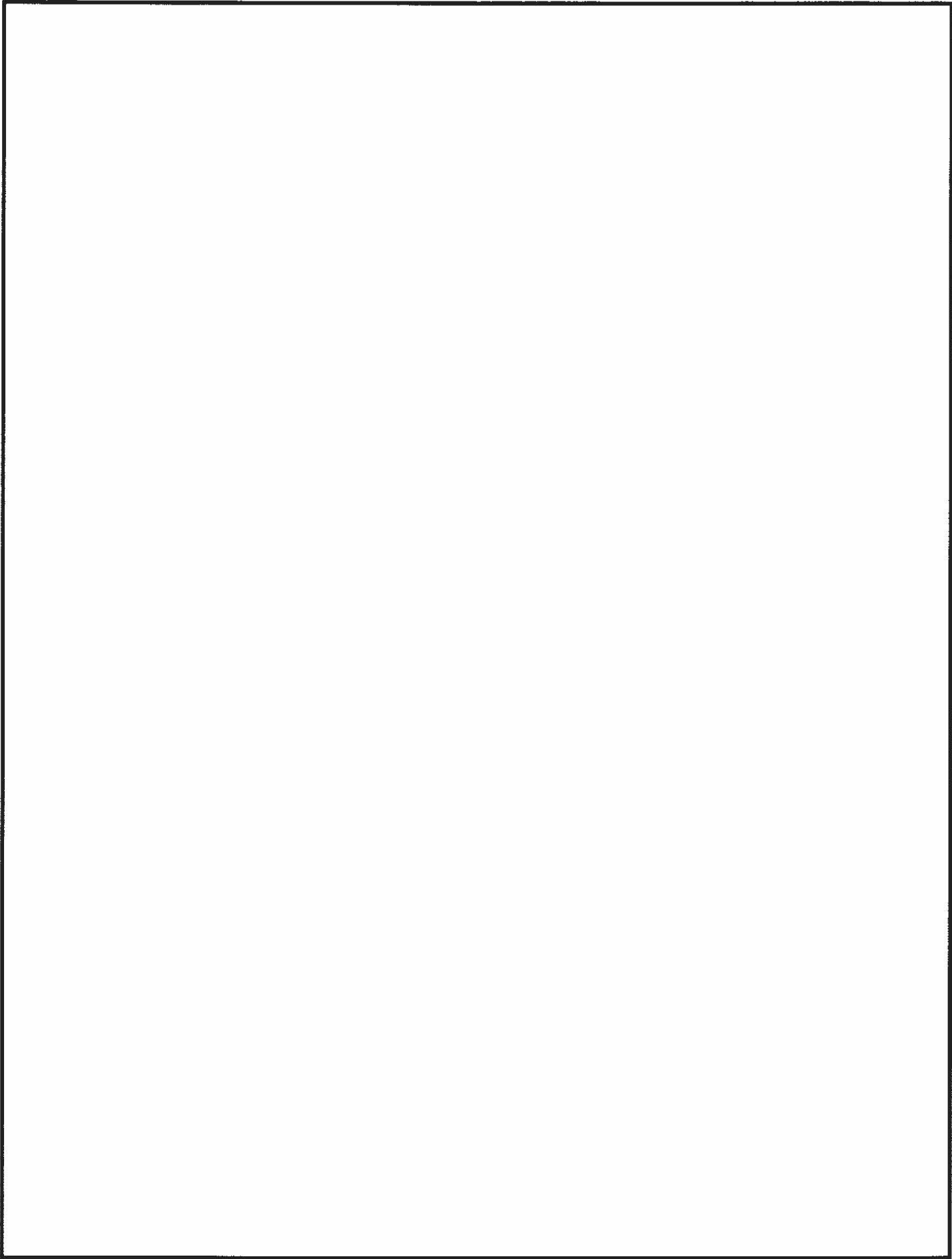
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