



In case you didn't notice on the cover, this is.........S A M R O - - No. 15
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Contents by Sam Martinez
Artwork by Pave Martinez
Comfort and encouragement
byAlice Martinez
Theer by Schlitz

I am sure that all of you will be happy to hear about one of my New Year's resolutions, made at the beginning of this year. I decided that the time had come to rid myself of slothfullness and inactivity and once more become an actifapan. In other words, have an issue of SA'TO in every FAPA mailing. So, as any fool can see, here I am with my annual issue, beating my brains out trying to make the August dead-line before I am expunsed from the rolls.

Other than that, what's new? Not much. Still carrying on as editor of the weekly journal PATCHTE APPROVED which usually leaves me too pooped to do much farmubbine. (Now, Leej, how do you interpret the constitution? Would 68 copies of an issue of Patch and Approved be elicible for activity requirements?) No new additions to the artist bousehold. Pob Nartinez, (who many of you will remember from 311 and former and knows), is now living in Keckuk, Iowa but his Uncle is breather from the neck and be may be wearing a different uniform shortly. Tucy, no some of you Tos inceles fans not on a visit out there a number of we as back, in now in her Senior year at Tulsa Thiv. and the rest of the crew (Charlie, Dave and another Sam) are rapidly approaching actifan are. Tave threateness to start his own sine any day now. Yearwhile, he is my most avid and prolific contributor. By the way, Tave is quite an artist (cil mainting) in addition to his cartooning, and you may see some of his entries in future xxxCCV Art Chows.

"aven't been doing much travelling lately, so baven't cotten to do any fan visitations, worst luck. "ill by up in "m in August....maybe "ill get a chance to give some Fanans up there a call. "oo bad, I don't see why they don't include the telephone numbers of TAPA members in the roster....on second thought, maybe I do! I can just visualize a bunch of drucken fans, at three A."., sawing, "You know what would be fun? Let's call old whatizname long distance and get him out of bed. "e'd be tickled to death to hear from us!" "Forget I mentioned it. Anybody in Tulsa can find my number in the phone book, if they need it.

Anyway, so much for introductory palayer. On with the main events. This issue of JAMRO has a strange accumulation of items. So what's new! The ditto machine cave me problems again. I have been told this results from too much fluid. But no one seems to be able to tell me low to reduce the fluid flow, so if you are one who not a blurry conv.....I'm truly sorry! As usual, I am composing directly on stencil, and the close to deadline for proofreading so....full speed ahead, and damn the typos!

Sar Cartinez

## CURRENT TRENDS IN INFORMATION RETRIEVAL TECHNIQUES

## by Sam J. Martinez

Many mullions of words have been written and spoken about the "population explosion" that followed World War H. Concurrently, a persile) situation was duly noted and publicized .... the intermation Explosion: The reasons behind the sedden mushrooming growth in post-war science and technology are obvious. Billions of doltars were poured into all types of government-sponsored research, and many of the discoveries developed to aid our fighting forces later proved to have peace-time applications, in branching proliferation, basic technical breakthroughs in turn stimulated multiple supplementary discoveries, improvements, and new applications. As a result, practically every technological field underwent rapid evolution and expansion..., and the trend is still continuing at an ever-accelerating page.

A by-product of this scientific surge is the vast flood of published information constantly being released to the public in the form of books, journals, technical papers, reports, patents, promotional brochures, etc. The engineer or scientist it today finds himself facing a perplexing dilemma. Unless he keeps up with all of the new developments in his field, his technical "know-how" soon becomes obsolested and he is in danger of being replaced for at least bypassed) by younger, more recently trained college graduates, familiar with the latest discoveries and techniques. Paradoxically, the sheer votume of new information being resuled is more than he could read and digest, even if he did nothing else

Fortunately, this problem has been at least partially solved by a process known as "abstracting," which consists of digesting arginicant technical papers and patents into summaries of a few hundred words each. Such abstracts are grouped by subject matter, published, and distributed to interested technical people. They, in turn, in a reasonable amount of time, can brouse through these abstracts, gain a bird's-eye view of significant current developments, and what is more important, have their attention drawn to items of special interest, pertaining to their particular specialises. Thus alerted, they can obtain the full text of such documents from a library for closer study, and remain up-tu-date with a minimum of lost time and motion.

How successful this technique has proven a attested by the fact that today, more than 800 andividual abstracting services are in operation throughout the world, coverang developments in practically every known field of scientific and industrial activity. Special techniques, known as "selective dissemination," are in some cases used to direct specific items of interest to key personnel, automatically, based on a specific "interest profile" that has been developed for each individual. In this manner, with information is not overlooked, merely because the engineer or scientist is too busy to read an abstract bulletin, consistantly.

A typical abstracting operation is that provided by the University of Tules's Information Services Department, which reviews all available publications, domestic and foreign, that may contain partinent information in the helds of petroleum exploration, development and production. Significant items are selected and abstracted, and a

weekly bulletin, Petroleum Abstracts, is distributed to oil companies throughout the world, who in turn financially support this service. Last year, 13,857 abstracts were published in this bulletin, serving as a convenient review of all significant developments in the petroleum production industry. Sources for these abstracts included over 650 different scientific and trade journals, papers from numerous technical society meetings held during the year, reports issued by various government agencies (both state and federal), and a thorough review of all patents issued by 20 different countries.

But the "current awareness" aspect of such abstracting and review activities represents only a part of the overall problem. Published scientific data are customarily referred to as the "known" technical literature in a given technological area. Unfortunately, in a very short time, such knowledge may become the "forgotten" technical literature, unless means are provided to retrieve it, quickly and easily, when needed. This has proven a far more formidable problem, for which no easy "cure-all" is available. Hundreds of Information Retrieval systems have been developed, each with its own advantages and disadvantages, and new, exotic techniques are being proposed every day, but experts in the information-handling field readily admit that the ultimate answer is yet to be found.

The new for rapid access to reference information is hard to evaluate on a dollars and cents basis. Primarily, it is related to the often significant cost of being unable to locate specific items, buried in the library stacks. Many instances have been cited of research projects, costing millions of dollars, that unknowingly duplicated previously reported experimental data. Many an industrial company has found, too late, that a new patent which they had developed at great expense (or what is still more embarrassing, the rights to which had been purchased) was invalidated by an earlier patent, of which they were unaware. So the problem of "information retrieval" is of real significance in today's complex, ever-changing technology, and considerable research is being conducted by both the government and private industry, in hopes of developing more efficient, reliable systems.

Probably the simplest and best known method of organizing information, so that it can be located at a later date, is by the use of a simple subject-classification system. By this method, a series or related topics and sub-topics are set up as "pigeon-holes" into which the various items can be sorted, each subject usually being indicated by some sort of a numerical code. The Dewey Decimal System, used by many libraries for cataloguing books, is a familiar example of this type of retrieval system. Thus, to find material on a particular subject, it is merely necessary to go to a card catalogue and look up that particular subject. The principal disadvantages of this method are that: (1) a particular book or document can only be shelved under one classification, and the searcher has no way of knowing what other subjects may be covered therein, and (2) the subjects under which each item may be filed are limited to the few rigid classifications established in the basic system. The first problem may be overcome to some extent by cross-referencing multiple entries in the master card file, under different subject headings. The second problem can only be solved by modification and expansion of the basic classification system, although this is usually an involved process, attempted at infrequent intervals only.

One of the problems connected with use of a card catalogue is the physical space required to store the cards, as well as the time required to maintain the system and add new cards, in proper order. The magnitude of these problems depends on the number of documents represented in the file, and on the extent of cross referencing.

Several systems have been devised to provide the advantages of multiple entries, without adding to the bulk of the catalogue cards. One fairly well-known system is the use of edge-notched cards. A series of specified positions along the edge of each card are left, intact or notched, as desired, to form a binary code conveying specific classification information. In this manner, a number of different classifications may be designated on a single card, and all of the cards bearing a given classification code may be separated from the rest of the pack by the use of special "sorting needles." The principal disadvantage of this system is that only a limited number of classifications can be keyed to any one card. Also, sorting becomes cumbersome when the file exceeds 10,000 cards.

Another approach to file simplification has been the development of "inverted tiles." By this method, rather than having an individual card for each document, on which are designated subject classifications pertinent to that document, the file is made up of a card for each subject classification. These cards, in turn, have designated on them (usually by means of a numerical accession number code) the various documents to which this particular subject classification has been assigned. Thus, to locate all of the references in the file on a given subject, the single card for that subject is pulled, providing a complete list of the references desired.

An even more sophisticated retrieval system involves the coordination of several different subject classifications, for greater specificity. This method, which is nicknamed the "peekaboo" system, has a fixed position on the card for each document number. Instead of printing the pertinent document number on the card, a hole is punched through the card at the point corresponding to the particular document number. When searching, if one wishes to obtain documents to which two or more specific classifications have been assigned, it is merely necessary to superimpose the cards upon one another, hold them up to the light, and observe which, if any, of the numerical positions is common to all of the cards, as evidenced by light passing through the punched-out holes. Such a system permits greater specificity of searching by narrowing down the subject matter of the references to be retrieved.

One of the major advantages of a concept coordination system, such as this, is the greater flexibility it provides, both for the person assigning the subject classifications to the document, and for the searcher selecting the subject classifications under which he will search. The number of terms or phrases under which documents are classified may be greatly expanded over the conventional classification system, and new terms may be added as needed, as long as a complete list of terms used is available to the searcher, so that he will know where to look. These classifying terms or concepts are usually referred to as "descriptors," and the process of assigning them to a particular document is referred to as indexing."

The fundamental basis of a concept coordination system involves the combining of related terms for improved searchability. By coordinating concepts on which information is desired, and identifying the areas of overlap or agreement, pertinent items may be identified. Several different search strategies are possible.

One type of search question, designated as the "logical sum," lists a number of pertinent descriptors and asks for all abstracts bearing one or more of the listed descriptors. This type of search question is used when there are alternate possibilities under which a document may have been indexed and, although the searcher may retrieve some references for which he has no use, he will not miss any pertinent abstracts by arbitrarily

Logical Product

selecting a single descriptor. For example, if information were desired on oil well drilling offshore in the Gulf of Mexico, it would be wise to search not only under the term Gulf Coast, but also to ask for abstracts indexed under the terms Gulf of Mexico, Texas, Louisiana, Alabama, Mississippi, etc.

A second type of search, known as the 'logical difference," involves selection of references which have been assigned one specific descriptor, but do not also carry a second descriptor. For example, a request for articles on all kinds of plastic pipe, except those containing epoxy resins would involve selecting all references that have been indexed as Plastic Pipe, and then eliminating all those that bear the descriptor Epoxy Resin.

In a third type of concept coordination, the "legical product" search, the area of interest may be defined as that which is common to two or more descriptors. Thus, a search to find articles describing analytical methods for detecting traces of Uranium in seawater might coordinate the terms Trace Analysis, Uranium, and Seawater, requiring the assignment of all three descriptors to identify the required document or documents.

In many cases, complex relationships between descriptors may be set up for improved searching results. For example, a request for statistics on the success ratios of sand consolidation treatments in deep Gulf Coast well, using remedial techniques other than plastics, might be set up as follows: (Field Data or Case History) plus (Sand Consolidation or Sand Control) plus (Gulf Coast or Gulf of Mexico or ...) but not (Synthetic Resin). A search question such as this is rather difficult to perform using conventional manual search tools; some of the machine-searching techniques in use nowadays, however, will provide the answers quickly and easily.

The most common manual searching tool, other than the conventional card file, is the alphabetized subject index, listing the title headings of the different abstracts under appropriate subject headings. By providing multiple listings for each item, additional entry points are provided by which a particular document may be found.

A more specialized form of index is known as the KWIC Index (Key Word In Context) in which the document title is given multiple listings under significant words extracted from the title itself, arranged alphabetically. The effectiveness of this system is limited by the efficiency with which the title reflects the contents of the document. and Also, the length of the title limits the number of key words under which the document can be cross referenced. references for which he had no mes he will

Another type of codes, known as the 'Dod Dictionary,' provides the searcher with the idvantages of codes a coordination. It such at index, the descriptors are listed alphabetically, and a conserval listing of the documents to which each a scriptor has been assigned follows. It order to coordinate two descriptors for greater specificity during searching, two copies of the index are used (hence the name Dual Dictionary). One book is opened to each descriptor and the two firsts are compared to determine which numbers, if any, are common to both lists. These in turn can be compared with additional descriptor listings, for greater specificity, as desired. Any document number which is listed under all of the desired descriptors will contain information relating to that particular combination of descriptors. Thus, by careful selection of the searching terms, the subject matter of the references produced by the search can be narrowly defined by the searcher.

Obviously, the use of specialized searching tools will greatly reduce the amount of time and work revolved to finding desired information hidden away in the archives at a library. This is particularly true in the case of journal articles and patents which are so varied and prolific as to dely any attempts to catalogue them by conventional library methods. The most recent improvident in retrieval techniques has been the utilization of computer memory banks to store retrieval data. By using specially designed search programs, it is merely necessary to feed into the computer the search descriptors and their relationship to each other, and the search cutput is a listing of the pertinent references) is printed out almost immediately.

Other elaborate mechanized systems have been devised for storing and retrieving amformation, on microtilm, in the form of reels, strips, or even card-mounted film chips. Each system has its own advantages and disadvantages and care must be taken, when selecting a system for a particular need, to base the chice on a logical consideration of all factors involved, rather than just on the glowing praises of a salesman for his particular system. Many conflicting claims and counter-claims have been publicly debated, comparing the different systems, and from the resulting confusion one can only conclude that the perfect system has not yet been devised.

In order to get a more detailed picture of an information services aystem in operation, let's examine the University of Tulsac's abstracting and retrieval services. As previously mentioned, this particular group provides coverage in depth for published technology pertaining to the exploration, development and production of petroleum. This service, in conjunction with similar abstracting services covering petroleum refining and petrochemicals (provided by the American Petroleum Institute), constitutes complete coverage of the petroleum industry. Original documents (journals, reports, technical society papers and patent gazettes) are immediately reviewed as received, and selections made of the particular items considered to be significant and pertinent to the area of interest. These items are then summarized by skilled abstractors who are knowledgeable in the technical field represented (go logy, petroleum engineering, cheinistry, etc.?. After suitable grammatical editing, each abstract (accompanied by the original document) goes to in indexer who assigns descriptors that will reflect the subject content and scope of the particular item. The number of descriptors assigned may vary all the way from 5 to 90, depending upon the original document. An average of 18.9 descriptors per abstract were assigned during 1966.

The abstracts are then separated into broad subject groups, and published in the weekly Petroleum Abstracts bulletin. Pertinent retrieval information (title, bibliographic data, names of authors or inventors, patent numbers, and all of the descriptors assigned

by the indexer) is then keypunched on IBM cards, to be fed into the computer and stored on magnetic tape. By means of suitable programs, these data are rearranged, correlated, and automatically printed out by the computer, ready for publication.

In this manner, a monthly Alphabetic Subject Index is prepared, in which all abstracts are listed under a maximum of five subject headings, arranged alphabetically. Each title is keyed by the appropriate abstract number, enabling the searcher to go directly to the abstracts of interest in the weekly Petroleum Abstracts bulletin. Supplementary sections of the Alphabetis Subject Index list significant bibliographic data for each abstract, in numerical order, and provides a complete listing of authors and inventors, as well as a numerical listing of the patents abstracted during the month. These Indexes are issued every month, however the June and December issues are cumulative for the year. The latter is cloth bound, making it a convenient permanent reference to bound volumes of bulletins in a library.

In addition, a Dual Dictionary is issued three times a year (in April, August and December) providing an inverted file, by subject, of all of the abstracts published during the four-month period. Each index is cumulative for the year, and the December volume is cloth bound for permanent reference. The Dual Dictionary is completely assembled and printed out by computer, which produces a finished copy, ready for offset reproduction.

In addition to these manual searching tools, all of the retrieval information stored in the computer is processed and recorded on magnetic tape in such form that it can be searched, using a list of pertinent descriptors together with the appropriate search program. This Master Record Tape can be produce mixed to produce five different outputs, depending on how much information the searcher needs. These outputs range from a simple list of abstract numbers to a complete printout of all the stored data on the tape for each abstract. As an aid in looking up specific abstracts, a complete set of abstracts is also available on file cards to provide a sequential file, supplementing the bulletins.

The effectiveness of any retrieval system depends upon the care and thoroughness exercised by the indexer in assigning appropriate subject descriptors to a document. However, this is only half of the process. If a search is to be successful, equal care and thoroughness must be employed by the searcher in determining which retrieval tool he will use, and what descriptors will most accurately delineate his search question. The ideal goal of any information storage and retrieval system is the ability to recover all pertinent information stored therein, in response to a specific question. How nearly this goal is achieved provides a measure to the effectiveness of the system.

One fundamental requirement for a system employing concept descriptors, such as those currently used by the University of Tulsa, is vocabulary control. This means that each descriptor must be unique in meaning, when considered in conjunction with other descriptors used for indexing. Obviously, if multiple synonyms for the same concept are allowed to creep into the system, an indexer may use one term while a searcher uses another, and the desired document will not be found. Depending on their background, various persons might use the terms—ethyl alcohol, grain alcohol, ethanol, or torpedo juice to designate the same material.

For this reason, a special list of acceptable, non-duplicating terms has been assembled, from which descriptors are chosen for indexing abstracts. These terms are listed in the Exploration And Production Thesaurus, published by the University

of Tulsa, for the benefit of the searcher. If additional terms are even needed by the indexer such supplementary descriptors are tabulated in an aphabetical listing in the Dual Dictionary. The thesaurus not only lists acceptable terms, but also contains unacceptable synonyms, together with the preferred terms which should be used by the indexers and the searchers. In addition, related terms are cross referenced under each term, to assist the indexer or searcher. Also shown are "Broad Terms" and Narrow Terms' which show related acceptable terms, at different levels of specificity. It is of interest to note that, in the Umiversity of Tulsa system, whenever an indexer assigns a pertinent descriptor to a particular document, all broader descriptors are accommatically generated by the computer, during processing, so that a search framed of a broader base will not miss this particular document, merely because it has been indexed using a more specific term.

In attempting to retrieve information from an information storage system, the searcher cannot grab a few descriptors at random and expect to obtain satisfactory results, no matter how carefully the system has been designed. There are certain fundamental decisions a searcher must make before he is ready to start on his search. First of all, he must have a clear picture in his mind of exactly what information he desires. If he has only a hazy idea of what he is looking for, it is extremely likely that he will come up with some wrong answers. This frequently happens when the searcher is not really sure what he hopes to find, and is on a sort of "fishing expedition."

The first step in performing any search should be a verbalization of the question, in specific terms. The searcher should then determine certain things about his search question. Is the information he seeks within the scope of the file? Many times, a search is conducted for information that is properly outside of the realm represented by the selection policies of the abstracting service involved. For example, a question relating to refinery techniques would not logically fall into the subject area covered by Petroleum Abstracts.

In addition, the searcher must determine the degree of specificity he desires in the references he will obtain in response to his search. If he is too specific, he may retrieve nothing that his his too-stringent specifications, whereas many items in the storage file, although not perfectly material the terms of the request, might provide the information he needs, single or in combination. On the other hand, if his request is too broad, he may be flooded with several thousand references, many of which will prove useless to him.

For example, the question "V hat do you have on the use of a log window to discriminate against long-time correlations with the signal in interpretation of long period body waves?" is far too specific. In contrast, the question "What do you have on rotary drilling?" is much too broad, and would result in a deluge of references. The question "What are the most effective means of increasing fatigue life in drill pipe?" represents a practical level of specificity, to which a useful answer might be expected.

Once the question has been formalized, it must be analyzed and converted into system language. This involves selection of appropriate descriptors from the Thesaurus and the Supplementary List generated by the indexers. For example, let us consider the following question: "I need information on the use of digital computers for determining amplitudes and apparent velocities if seismic events." This question would be represented by the following descriptors Digital Computers; Seismic Interpretation; Wave Amplitude; Wave Velocity; Seismic Velocity; Geophysical Data.

Next, the searcher must determine which is the appropriate search too he should use. This decision should be based on a number of factors. How broad or narrow is the search question? Can it be characterized by a single descriptor, or are multiple descriptors required to define it? If the latter, should these multiple descriptors be searched independantly, or should they be related to one another? Do the search requirements call for a deep or a shallow search? Does the questioner merely wish to locate some clusive data for use in his research, or (as is often the case in patent litigation) is a comprehensive listing of all published references on the subject desired? Economically, how significant is the search question? Will the value of the answer be greater or less than the cost of finding it? How quickly is the answer needed. The aroutine or emergency basis? How will the information be used. To attain current awareness on selected subjects, or as a preliminary survey of a projected research topic? These questions must be answered by the searcher, in advance, if he is going to obtain maximum utilization from an information retrieval system.

The searcher is now ready to perform his search. If only a single descriptor needs to be searched, such a question can be quickly and easily answered by relating to either the Alphabetic Subject Index or the Dual Dictionary, depending on the search hensiveness of the search answer required. If coordination of descriptors is required for greater specificity, the Alphabetic Subject Index is impractical, and the Dual Dictionary should be used.

On extremely complex searches, or where it is necessary to coordinate heavily posted terms, use of a computer to perform the search may be considered. In this case, economics becomes an important aspect for consideration because computer time, however short, is expensive. A search which would require \$20 of an employee's time to perform manually can certainly be completed with less time and effort by a computer, however, the cost might be \$100. The economic feasibility of such a substitution might be questionable, no matter how convenient for the employee. It shows be pointed out, in all fairness, however, that multiple searches can be conducted on a computer in practically the same time as a single search. Thus, an individual or company making many searches stands to gain economically by accumulating his search questions and running them through the computer in batches, perhaps lifty at a time. In this manuet, the provated cost per search becomes negligible, amounting to a few dollars per question

Attempts have been made to evaluate various retrieval systems, and the results of some of these tests could also stand some analyzing. However, a few basic criteria are evident. One convenient variatick in evaluating a system is to determine its efficiency in terms of Recall and Relevancy.

"Recall" is defined as being the ratio of pertinent documents stored in a system that are retrieved by a search question. In other words, if a search turned up fifteen references out of a possible twenty, the score would be 75% recall for that particular test question.

The "Relevancy" of a particular search refers to the ratio between the pertinent references recovered during the search and the non-applicable references that must be discarded. Thus, if twenty references were obtained as the result of a search and eight of these were not of interest to the searcher, the resulting relevancy score would be 60%.

These two factors are inversely related to each other, and can be modified to some extent by the specificity of the search question. For example, a broadly stated question

will probably retrieve most of the stored references on the subject, resulting in a high recall; however, it will also produce a large number of "false drops" which must be discarded, resulting in low relevancy. Conversely, a highly specific question will eliminate all but a few highly pertinent references, resulting in high relevancy. In so doing, however, many marginal references that might be considered as being responsive to the search question, might also be eliminated, resulting in a low recall figure.

It is thus necessary, in testing any retrieval system, to evaluate the phrasing of the test questions, as well as the internal characteristics of the information system itself. Some systems exhibit inherently high recall, while others are characterized by their high relevancy factor. We believe that the University of Tulsa system represents a desirable compromise between these two extremes, allowing the searcher a certain degree of latitude in framing his questions so as to obtain results consistent with the needs of his particular search.

In summary, the field of information storage and retrieval is currently in a state of flux. Many different systems have been devised to fit differing needs, and none has provided a universal answer. Meanwhile, many ingeneous innovations are being watched with interest. Assignment of descriptors by means of computers, based on frequency of word use in the original document is one such development. Improved searching technique techniques using "weighted" descriptors for improved relevancy are another. In the computer field, conversion from standard magnetic tapes to "random access" magnetic disks promises to streamline searching operations and reduce computer search costs. It's an exciting field, and one that is changing every day. Perhaps the next few years will see the development of a perfect system, completely automated and operating with 100% recall and 100% relevancy.



## I STE PY THE PAPTRS.

Things are not always dull here in Tulsa. Strange and wonderful things go on, especially in the courts. For example, the other day a couple of police officers, Detective Gary Glanz and La, Jim Clark dropped in on a little card game and broke it up, after which they raided a crap game going on in the next room. They arrested those participating, and in due course they came to trial before Municipal Court Sudge Luther Lane. The defendants contended that the "search and seizure" clauses of both the State and Vederal Constitutions had been violated. The opinion handed down by the judge deserves to be perpetuated for posterity and is hereby reproduced for unfortunate Fapans who might wish to cite it as a legal precedent, under similar diroumastances....



(After a preliminary statement that the persons who wrote the Hill of Rights had fresh memories of copression and tyranny of the State in Europe, he continued.) They were determined, on March h. 1789, as, indeed, those who lived thereafter for 177 years —to this good day— are so determined, that the oppressions and tyranny of Europe would never exist in these United States. This nation was founded upon the historical principal that the individual must be protected from the tyranny of the State.

Officer Cary Glanz testified. He is a young, likeable and very energetic officer. I know of no person who possesses his energy and zeal. At no time did he have a warrant, nor a search warrant. He testified that the moon had not yet waned, that he had information about a crap game, that he could hear in the early morning and in the stillness of the night the musical rhythm of the ivory, rippling like the waves of the sea against the cushions. He knew the sound.

The witness was at first about a block away: Cautiously he drow near. Since the witness had sojourned, even tarried, not 'in Jericho', but in las Vegas, the carital of gambling of these United States, he spoke as one possessed of peculiar knowledge, with an auditory herve necessarily most keen. The court listened with rapt attention.

He tried the street doors but could not enter. We then scaled the wall and with the help of a drain pipe and with the agility of a dat and the litheness of a gladiator, he reached the second story. As he hovered precariously between heaven and earth, he saw through a glass but closed window -- not as Lord Byron saw before the battle of Waterloo, for he wrote, "There was sound of revelry by night; for there had assembled in the Belgian capital the wit and chivalry of the ages." Rather, he saw some individuals engrossed in shooting pieces of ivory and shouting 'Little Joe,' as done by all the races of men and women since the dawn of creation. At the risk of life and limb, he dived through the closed window like Batman.

Now, crap shooting for money violates the law, whether in brothels of church baraars. That is not the question here. The fundamental and paramount question here is: Was this an unreasonable search and seizure in violation of the Constitutions, under the facts and circumstances disclosed? I think so.

The Constitution is above any policeman, any judge, any labor leader, any politician, any president. Its Bill of Rights is grounded in the Constitution, not by the few but by the millions of American citizens who inhabit this land. It falls like the rain on the just and unjust, the guilty and the immocent.....

(Judge Lane listed six cases in which decisions were made on illegal search and seizure, and then continued. He said under the Extremis Doctrine, an officer passing a building or home may enter without a warrant or search warrant if he hears great discurbance, turnoil or cries for help. If necessary, he may enter by force to prevent crime or save life or to pursue a felon, he said. Then he added:)

The Extremis Doctrine does not apply in this case. The court knows the inconvenience, the hardship and the oft-time futility of an officer petting a search variant or rounding any judge out of bed at 3 d'clock in the morning. Even then, the judge may refuse to sign a search warrant. Nevertheless, the Constitution of the U. 9. is the supreme law of the land. Pefore that sacred shrine, all men must how. It would be contrary to the genius of tree people to trifle with it.

Conclusion: The court sustains the motion, orders the defendants discharged, the monies given back to the defendants or their attorney of record, the machines to be given back provided that the licences due the city are paid.

And speaking of governmental functions .....

The payroll deduction for your Social Security has beed increased, scarcing tan. 1907, to hope based on sarnings up to \$0,600. The company you work for pays an equal amount. Last year, you paid how to \$6,600 or a total of \$177.20 to the Social Security fund. In 1967, with the \$1.7 increase, you will pay \$290.60 into the fund. If you make \$6,600 or more a year, you and your company will put in \$580.80 each year, as a total.

The maximum amount payable now under Social Security is between \$124.00 and \$135.90 per month.



