தமிழ் எழுத்துச் சீரமைப்பு

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REFORMS IN INDIAN SCRIPTS

REFORMS IN TAMIL SCRIPTS

SPECIAL PROJECT

BY

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Submitted in partial fulfilment of the requirements
for the Master of Design Degree in Visual Communication.

Guide

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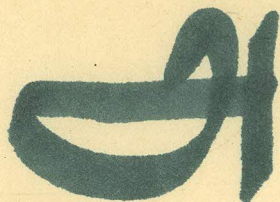
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INTRODUCTION

The Tamil language is of hoary antiquity, and the chronology of its evolution from the proto-dravidian through the proto south dravidian spans several millennia. The Tamil script is relatively much more a recent invention.

The script of a language is largely determined by various factors and its evolution has a bearing on the interaction of such factors. One has to take note of the geographical and Topographical features of the regions where the writings are available, the materials used for engraving or writing records, the chronological factor, political, relegious and social influence of the age and so on.

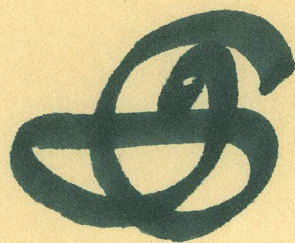The systematic study of the scripts is known to antiquarious as paleography. We have a rich collection of writings on rocks, metals and palm leaves. A study of the numerous inscriptions in different regions reveal how the scripts in the various regions differ not only due to difference in the tools and surfaces but also to the whims and tastes of the scribe and sculptor and to political, relegious and social factors of the period.

After the introduction of the printing press the scope for change in the form of script in all the indian script was less than what it was when individual scribes had their own way of writing on palm leaves which gave scope for variation of scripts. With the advent of printing press it is the printed word that has come to dominate communication of knowledge on mass scale. Anything that could lessen the burden in printing and make the process less arddous is seriously considered.

Here in this report I have briefly documented
-- The origin and the historical perspective of the evolution of the Tamil script in chronoligical order.
-- The different tools and surfaces used.
-- The reasons for the reforms
    * Calligraphic
    * Typographic
    * Mechanical
    * Social, Religious, Political influence
    * Western influence.
-- The problems prevailing in the present script and the scholars

work on reforming it.

A study of the reforms and the problems prevailing in the present script is of immense importance to any one who would like to study Tamil Typography. For the past Six or Seven decades there are only four or five scholars who have given a thought about the scripts. The need was realised only in the early Twentieth Centuary.

A systematic study of the problem and a feasible solution would be of a great help to reduce the work of a printer, typist etc., which in turn helps for fast production.

THE ORIGIN OF THE TAMIL SCRIPT

The origin of the Tamil script is still a debatable topic. Though the scholars have accepted that the origin of the script in Brahmi, the debate is on whether that, it is the Ashokan Brahmi or did Brahmi originate in Tamil Nadu. There are specific differences between the earliest Brahmi inscriptions found in Tamil Nadu and NorthernIndia.

Even, common men where well versed with Tamil script as early as second B.C. Pottery inscribed with the Tamil Brahmi script which represent the earliest datable specimens of Tamil writing have been found in recent excavations of early historical sites. This ensures that the script was common even with common men like the potters.

The arrangement of the tamil script is similar to that of Devanagri (i.e) (Special Characters Zha, Zla, Rha, Na are placed at the end) but this arrangement is very late may be after the Fifteenth Century. The earliest grammatical and didactic works like Tholkappiyam and Thirukkural place Uyirinam first, Vallinam second, Mellinam third, and Idayinam fourth.

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Uyirinam -- Vowels.

Vallinam -- Consonants ய ல வ ழ எ ற
(Ya, La, Va, Zha, Lha, Rha)

Mellinam -- Consonants க ச ட த ப ர
(Ka, Sa, Ta, Tha, Pa, Ra)

Idayinam -- Consonants ங ஞ ந ன ம ண
(Nya, Nzya, Na, Nha, Ma, Naha)

There is no scientific dating for the Tamil Brahmi script other
that that on the paleographical grounds. More excavations and
inscriptions on pot shreds with carbon dating for the site can
give proper dating.

To determine the chronology of the Tamil script
-- The datable links with the external world reffered to in
   the early Tamil script.
-- The Archeological techniques.
-- A comparitive paleographical study of the Tamil Brahmi
   script and neighbouring scripts of Northern Brahmi.

are briefly studied.

2 II

There are only few datable links with the outside world in the
early Tamil literature. Taking the totality of the literary
evidence earliest the Archeological evidence and paleographical
study the time bracket for the origin of the Tamil script is
dated not earlier than third B.C. and not later than third A.D.

EVOLUTION OF THE TAMIL SCRIPT

PRE-PRINTING PERIOD

The earliest Tamil script (ie) third B.C. Tamil script is known as Archaic Tamil. The major reforms in the Tamil scripts were in sixth A.D, tenth A.D. and fifteenth A.D.

The Tools and Surfaces Used For Writing/Inscribing Tamil Scripts

Mainly to write/inscribe Tamil script five surfaces were used from three B.C. to Fifteen A.D.
-- Palm leaves
-- Stone
-- Copper plates
-- Lead coins
-- Papers.

The growth of the palm trees are in plenty in Tamil land. The availability of the material in plenty made palm leaves the most important media on which the records were inscribed from the beginning till the advent of printing.

In tenth A.D. during the reign of cholas they found that palm leaves had short lives and cannot be stored for long time and

could be destroyed easily, so they started inscribing in a new
media (ie) hard stones. With advent of stones as a media
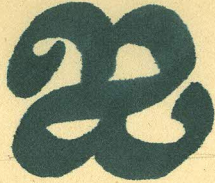there was a reform in the script.

Paper was not much used earlier for writing till the late
nineteenth centuary.

To write/inscribe the script sharp pointed end tool was used.
The material for the pen used for writing on paper was quite
flexible and slight variation of line thickness was achieved
by variation of the pressure applied while writing. But mostly
was written in strokes of same thickness. There were no chisel
nibs used for writing Tamil script as seen in the calligraphy
of the North Indian scripts.

The Evolution Of Tamil Script Due To Calligraphy And Typography

The earliest script found in Tamil-nadu may be called the
Archaic script. In the beginning it seems to have adopted the
alphabetical method (ie) using vowelles consonant accompanied
a medial sign.

eg. வண்டி → வண்டி

In the course of time it appears to have followed the system
of syllabary taking the vowelles consonant as vowelled
consonant. In a certain period the system of writing seems to
have been systemized and forced to observe certain prescribed
code. Pulli was added to denote the lesser sound letters.

eg.

Even to differentiate the short 'e ' and 'o' from long ones
pulli was added. The development in the Archaic Tamil

The Development In the Archaic Tamil.

The codes being used to differentiate short sounds to llong
sounds was due to the difficulty in understanding when written,
i.e. the typographical problem. It was quite confusing when
codes were not used for differentiating the kurils and nedils.

Major changes in the scripts during three B.C. to fifteen A.D.
is observed only twice.

1) In six centuary A.D. - due to the influence of grantha script.
2) In ten centuary A.D. - due to the use of a new surface(rocks)

3

For the first time we observed different type of characters in Tamil scripts in late fifth centuary A.D. This is believed that this evolution is due to the influence of the Grantha scriptsthat was used to write the Sanskrit and Prakrit language of the Pallavas with the Archaic Tamil script.

The Pallavas who are believed to have been the successors of Ikshvakus came to Tamilnadu from Andhra Pradesh. These kings were familiar with Grantha script. They were also pioneers in introducing bilingual charts. They wrote Sanskrit in grantha. There were certain letters in sanskrit which had no equivalent in Tamil.

eg. ஷ , ஸ , ஹ etc.
    Sha, Sa , Ha,

When writing their bilingual charts they faced the problem of translating sanskrit to Tamil, for their convenience they introduced those letterforms of grantha with Tamil.

In due course the scribe who were very familiar with Grantha script found hard to write Tamil so, to their own whims

3

they changed the basic structure of the letterforms, made it more curvelinear very similar to Grantha script. This script was known as vatta elluthu.

Vattam - Circle

Elluthu - Letterform

It is interesting to note that the Pandyas who were eulogised as great patronised and promoters of Tamil used only this new script. Even in the records of the Pandyan country and Cheranadu(present Kerala) the new Tamil script (ie) Vatta elluthu was used for writing records.

The banner of the new Tamil script raised aloft by the Pallavas was well protected by the Pandyas and Cheras. This new Tamil script retained its popularity till eleventh century A.D.

In nineth centuary A.D, Cholan kings raised to power and were very ambitious. They wanted their records to have a longer lives; they knew that palam leaves had short lives and if not preserved it could be destroyed very easily. They went for a new surface to write their records (ie) The records were

ஒா

inscribed on stones instead of palmleaves. The records became
part of architectural beauty.

While inscribing on stones the scribes found very difficult
to chisel curvelienear forms to linear forms. And in eleventh
century A.D. the old script Vattaelluthu was totally replaced
by the Kolelluthu (ie) linear forms.

        Kol   - Linear
    Elluthu   - letters

As contrary to sixth century A.D. reformation, the basic
structure of the letterforms remained the same in tenth
century A.D. The exagerrated curvelinear forms were slowly
changed to linear forms.

Even on the common man side, (person who still used palmleaves
for writing) Koleelluthu was preferred more than Vattaelluthu
because, Vattaelluthu when written created problems in reading
due to similarity informs. The letterforms looked alike when
written that is the reason even among the common man Koleelluthu
became popular.

REFORMS IN TAMIL SCRIPTS

POST PRINTING PERIODZ

The Reforms Due To Mechanical Problems/Westem Influence

The major reformation or indeed one could say the golden age to Tamil Typography was in sixteenth centuary A.D. with the advent of printing in india.

In fifteenfifty the first indian book was printed in Tamil. It was then when the fixation of character forms to Tamil letters was brought in by Rev. Fm Beschi.

There were no radical changes in the form of the letters, but many symbols and codes were introduced for easy reading.

1) Re introduction of forms to distinguish between long and short letters.

<div align="center">

eg. க , தா , ல , லா

</div>

2) Distinction between ா and ற

    ா   symbol used to denote long அ

    ற   Ra

3) Introduction to two new symbols

    ெ   and   ே   symbols used with consonant to write e ē

4) Revival of pulli system, which was lost in between though
   it existed from second centuary A.D.

* Earlier when the script was inscribed or written the open
  space in between each letter form was written according to t
  the whims of each scribe there were no hard and fass rules
  set regarding this. Due to this, sometime the matter was found
  very confusing to read. This became worse when the script
  was printed, as there was no open space between the letter
  form, the printed output was just a black mass.

  In 1875 the european misscionaries at Tranquebar were the
  first to introduce both open spaces betweeen letters and
  words.

* The proportion of the letters was also fixed only in late
  nineteenth centuary.

* The usage of punctuation was never found in Tamil scripts.
  Earlier to 1875 blank spaces were used for pauses. In the
  place of comma's and full stopssspace was increased between
  the two words. Relatively fullstops had more space than

நய

commas. In the place of exclamations and interrogations etc.,
there were no codes used. The person reading the matter had
to understand according to the context.

The usage of punctuations for the first time in Tamil scripts
was introduced by the Europeans.

* It was the Europeans introduced Arabic Numerals to Tamil
  scripts. Earlier letterforms were used to denote numbers.

eg. க =1 , ப =2 etc,

To differentiate numbers from the reading matter'space' was
increased between the matter and numerals.

Earlier to 1934 the reforms were mainly due to typographic
problems.

* New codes in symbols were introduced to avoid confusion in
  reading due to similarity of forms.

* Punctuations were introduced for a clear understanding of
  the matter.

* Arabic numberals were introduced instead of alphabetical
numbers to avoid confusion while reading.

As these reforms were brought in by the Europeans there were
lots of western influence. The influence was so great that
the punctuations, numberals, etc., were directly borrowed
without considering the fact that how it would fit in with
the indian letterforms.

As Tamil comparedto other indian scripts has less number of
letterforms. The Europeans didnot worry about adding new codes
and symbols which was a great hindrance to printers.

In the early twentieth centuary there were few scholars who
realised the need for reform in the script. The reforms were
considered mainly in three aspects :-
1) The number of letter forms in a font are more in number.

                    Eleven vowels
                 Ninety seven conjuncts
                  Eighteen consonants
                     Four symbols
                     One aiytham
        Total One hundred and thirtyone letterforms.

2) There are no uniformity or consistency in the letters for
   writing the sound(long) of

   eg. கா , ணா
       (Kaa, Naa)

       கை , ணை   Two different codes used of two
       Kai, Nai for aakara & aikara of two conjuncts.

   - in கெ , ஙெ   symbols are used in the right ke, Nzhe
     side of the letter.
   - In கா , ஙா symbols are placed on both the left side.
   - In கோ , ஙோ symbols are placed both the sides.

3) Has many complicated forms which is very hadd to write

       eg இ , ழ ,

ன

PERIYAR REFORMS

In 1934 to reduce the number of letters in a font
E.V. Ramaswamy Periyar proposal changes in the codes which were
used to represent certain conjuncts.

In the Tamil matrix of Uir letters (ie) vowels a, ā, e, ē, ai,
o, ō, aō he proposed changes in two letter forms.

1) ஐ – ai   2) ஒள – aō

are two letter forms which are basically combina-
tion of vowel and a conjunct.

$$அ + ய் = ஐ \quad , \quad அ + ழ் = ஒள$$

He proposed that, instead of writing separate symbol for denotive
the sound, the combination of the letter itself could be written.

$$ஐ = அய் \quad \& \quad அழ் = ஒள$$

By this the number of the letter forms in the vowels in Tamil
script would reduce from 11 to 9 though this reduction of two
letter forms does not look a great matter to a layman, for a
hand composer it would less a great amount of work.

Similarly for writing the aikara for certain consonants

கை, மை, பை, சை, டை etc.

கு

The symbol'ை'is used before the consonant. By the proposed
reform by periyar this symbol could also be avoided, this
again would reduce one letter form could be avoided in a font.
If periyar reforms are followed then it would appear as

கய் , நய் , பய் , மய் , டய் etc.,

In writing aikara of the consonants it is not similar with all
the consonants.

நை , லை , ளை , ணை

Nai, Lai, Lhai, Nhai,

These four consonants above are written differently and the
symbols   is not used before theconsonant for an aikara.
This increases four new letter forms in a font, with Periyar's
proposed reforms these fourccould be reduced from the font. So,
this proposed reform six letter forms are from removed from a
jobcase which is of great help to a composer. Even the amount of
time consumed is more or less the same.

Similar with the introduction of அவ் instead of ஔ. The letter
form ஔ can be eliminated. In this proposed reform for   ,
the 'Oukara' for theconsonants, does not make any change.

ந

for eg. ஒ,ஓ, the two symbols used for the 'Oukara' in
consonants are already in the font and there no introduction
of new letter forms. So, by the proposed design by Periyar
seven letter forms can be removed from a font which is of a
great help to a designer (in uniformity and consistency) type
founder and printer.

While writing these letter there seems to be no difficult, for
composing these letters a person has to pick thrice to
complete one single letter. This may considered as
wasteful and time consuming. In the case of typewriter also
one has to operate three keys. This involves waste of energy
and delay in the output. By the proposed reform by Periyar the
difficulty is reduced to the minimum.

Another proposed reformation in the Tamil script by Periyar is
being practised now in TamilNadu. To denote the long sound
ā for the consonants the symbol 'ா' is written with the
consonants. This again is not consistent with all the consonants.

eg. வா, டா, ஞா , ணா
     Laa, Taa, Nhaa , Naa,

U

He proposed that this symbol 'ா' could be used with all the
consonants to denote the long sound ā. This means that
reforms in a font would be reduced and also there would be
consistency among the letterforms. Hence, it is now written
as

ணா , ளா , றா

Previously the symbol 'ே'   was used to written with the
longer sound consonants to denote ō.

eg. கோ , ஜ ,ரே ,நோ

Since, the longer sound vowels are made consistent the ō
consonants are also written in the same manner.

eg. கோ , ணோ ,றோ , நோ.

With the reformation of the longer sounds three letter forms
have been reduced in a font.

These reforms in the script are being practised from 1980.
This has helped the printer, composer, typist, and the designers
to a great extent.

* Has reduced great amount of work involved in a type foundry.

6

* Reduced the confusion of learning the language.
* Aesthetically, the printed output is much more uniform and consistent.
* Confusion for the hand composer is reduced to minimum.
* Time consumed for typing is reduced to a great extent.

PROBLEMS IN THE PRESENT SCRIPT

Proposed Reforms By The Scholars

Does the system of Tamil writing require any modification or radical change ? This question is being debated by the users of Tamil all over the world for the past five decade.

On comparing with Devanagari script, Tamil script is simple and brief, even though the Tamil script is more complex and more numerous than the roman script. The Tamil script is simple have twelve vowels and eighteen consonants, but was made complicated while deriving Two hundred and sixteen conjuncts by attaching symbols to the body of the conjuncts. Further the symbols are added on all the four sides of the consonants.

Any reforms which are being proposed are all based on previously mentioned three aspect. Among the present day typographic methods, typing and printing besides handsriting, are the more widely used ones. The major advantage in typing over printing is morethat the possibility that it affords for breaking the letter in both horizontal and vertical directions. In printing, breaking the letter in the vertical direction is not normally

possible.

The problems in the present script are
* No consistency while attaching the symbols to the consonants.
* Too many codes andsymbol.
* The pure consonants together make eighteen forms which
  could be avoided.

Proposed Reform By Kodumudi Shanmugam

In printing vertical breaking has not been possible due to the
pure consonants. Due to the dot at the top of each letter
eighteen independent forms are added in a font.

Mr. Shanmugam has proposed that if a pure consonant with a dot
could be replaced with degree mark

eg. ல் , ப் , ட் as ல°, ப°, ட°

All eighteen forms can be dispensed with. This would also
help in vertical breakage of the letter form in printing. This
 was tried in, by Daily Swatheci Mithran(Tamil Daily) ten years
back. It was found that people found this quite hard to read.

ௐ

The time involved in typing one letter is thrice as Roman. One
has to type thrice in order to print out are letter form. This
means not only in typing but also in Linotyping machines the
time increase. If it takes five minutes to type twenty five
centimeters of tamil in Linomachine, it takes only the same
amount of time with fifty centimeters as out put in Roman.

As the proposed reform has greatadvantage in typing and printing
this reform could be practised and in due course the public will
understand it easier.

Proposed Suggestions By Mr. Shanmugam

1) All symbols with the consonants should come at right side of
   the basic letter and not at the left as கெ,கே. etc.,

2) Only two symbols should be there for each Uyirmey (pure
   consonants) letter and there should not be three such as
   கொ, கோ, etc.

3) Mey letter should be independent without dot and akara series
   should take uyirmey symbol. (க →கஅ , க் → த)

4) In the uyir row, one basic letter is sufficient and other

letters can take the corresponding uyirmey symbols.

It can very well be seen that other than eighteen basic
letters and one vowel, all the other letters will look
different in a printed page if the above suggestions are given
effect to, resulting in the possible maximum confusion during the
transition.

எ

Proposed Reform By Mr. P. Shanmugam

The basic idea behind the reform movement of the Tamil script
is to write the whole Tamil alphabets with a lesser number of
symbols. It must be easy to print and type.

Mr. Shanmugam has proposed reforms considering the vowels o,
ō, and aou. Medial signs for these three vowels are maximum
in the Tamil script.

In this respect he suggests the use of only one symbol with the
basic letter to represent a vowel. Three new signs (౮ . ౯ . ௯)
for denoting o, ō and au medials respectively are suggested.
In the Grantha script these three symbols are used and they
are unknown to Tamil script. They may be adopted for the
Tamil script without much difficulty. These symbols may be
placed following the basic letters to form consonants (கொ =
கூ , கோ - கூ   ). In adopting these symbols the Tamil alphabet
would have some sort of uniformity in the use of medial signs.
After the addition of these symbols the consonants would
appear as follows :

கூ , ஙூ , சூ , கூ , ஙூ , சூ , கூ , ஙூ , சூ

Proposed Reforms By Mr. Kulandaiswamy

As in devanagari or any other indian scripts the symbols used
with the consonants are not same for all the consonant.

eg. சு , கு , பு , லு .

He has proposed like Mr. Kodumudi Shanmugam that, degree mark
could be used for denoting the pure consonants.

There are only five vowels necessary, as other vowels are
longer sounds of the same vowels.

eg. அ – ஆ ; இ – ஈ ; உ – ஊ ,

So he has proposed that if the symbol which is used to
denote the longer of the consonants could be used with
the vowels than five forms can be avoided.

Instead of

அ – ஆ   →   அ – ஆா

இ – ஈ   இ – இா

உ – ஊ   உ – உா

ணா

Similarly he suggests common symbols could be used for writing
the other conjuncts.

(i.e.)   e   – ı

ē   – ı̇

u   – ௴

ū   – ௴

a   – ௲

ā   – ௳

ai   – ௫

This would be common and consistent for all the consonants.

By this proposed reform by Mr. Kolandaiswamy there would be only

Five   Vowels
Eighteen   consonants
Nine   symbols
One   Aiytham

Total thirty three forms.

which means that, from 131 forms the number of forms in the
script would be reduced to thirty three.

9

This reformation would reduce great amount of work and time involved in composing printing, typing, etc.,

6

CONCLUSION

There is tremendous enthusiasm among scholars for proposing
a number of new schemes for changing the Tamil script according
to their individual tastes. Many of them are neither aware of
the history of the evolution of the Tamil script nor about the
relative frequencies of the individual signs in the modern
Tamil prose. A deep study of this is very much necessary.
The scholars first of all should arm themselves with the
information about the distribution of the Tamil signs, and
about the historical changes that have taken place with
reference to the shapes of different letters.

Compared to many other Indian languages Tamil is the most
efficient language for communication. The reformers of the
Tamil script must also take into account the fact that the
old books will continue to exist for many more years to come.
Any literate person must be able to read the old books and
should know all the old signs.

Changes are bound to take place whenever there is a change
in the technollogy of communication. With the advent of the
printing press and the typewriter certain changes became

necessary. We were adapting typewriters and teleprinters that
were manufactured for the use of English language with the
Roman script. Furhter work is going on among computer scientists
to find the best possible way of adapting the Tamil script to be us
used with the computer. Work is also going on as to whether
Tamil characters can be recognized by the computer.
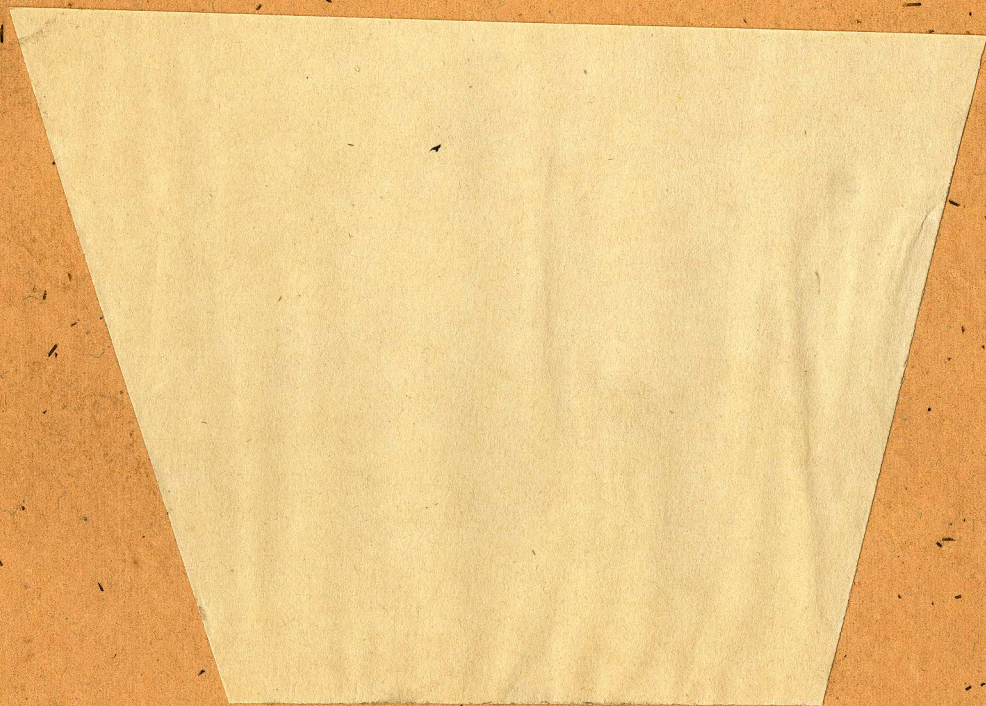
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