Instructions for record linkage in Histreg - the open access to the Historical Population Register

Histreg.no is a website for the Historical Population Register, HPR. The system has direct access to censuses, church registers and other nominative sources in the Digital Archive of Norway. Here it is possible to link together information about the same person from multiple sources and to connect information about persons who are related. For reasons of privacy, we do not support linking information about the living. See also information on the home page of Histreg.no.

All source records should be authentic. This means that the database should only contain source records that have been transcribed verbatim from the original source. It is, however, possible to edit names in the header of the person page, enter when and where the person was born and died. Another option is to add persons by registering deaths, anniversaries and marriages from a newspaper database. The system is under development, thus so far with limited functionality. Only people who are logged in can edit, link and connect the records.

Histreg gives each person a unique ID, e.g. The explorer Fridtjof Nansen has the ID pf01037029004494 and we find all the source with him at the page:

https://www.histreg.no/index.php/person/daid/pf01037029004494

and we find one of the sources at the Digital Archive of Norway at the URL:

https://www.digitalarkivet.no/census/person/pf01037029004494

Concepts

(Source) record: Event or entry in a source. In a census this is synonymous with a person instance.

Person instance: Entry of a person in a source, e.g. father, mother or child in a baptism. There are often several person instances in a church book record.

To link: to merge information about the same person from several source records.

Connect: create relationships between members of the same family.

Hyperlink: click item to go to other pages on the internet.

Home page: overview of the system.

HP – main record about a person.

The histreg is in Norwegian and the most important words are the following:

Norwegian	English	Norwegian	English
Fornavn	First Name	Legg i personkurv	Add to person basket
Etternavn	Last Name	Legg i familiekurv	Add to family basket
Kjønn	Sex	Rediger persondata	Edit person data
Fødselsår	Year of birth	Søk etter lignende person	Search after similar person
Fødested	Place of birth	Vis lenking av familiemedlemmer	Show linking of family members
Bosted	Residence	Vis redigering	Show editing
Stilling	Occupation	Lagre endringer i merknader	Store changes in comments

Far	Father	Rediger referanser	Edit references
Mor	Mother	Sikker	Certain link
Partner	Partner	Usikker	Uncertain link
Barn	Child	Fjern	Remove (a link)
Søsken	Sibling	Lagre fjerning	Store removal

Search page

Figure 1: Search page in Histreg. The geography is specified further down.

Here, the entire Digital Archive, Fanger.no (prisoners 1940-1945) and the newspaper database are searched with approximately the same search functionality as in the Digital Archive (digitalarkivet.no). When searching, at least one of the fields with personal information (first name etc.) must be filled in. In addition, you can refine the search based on geography, event type, event period and role. Geography indicates the county and municipality or parish of residence or birth. If searching for events in church records, the search can be limited to role in the event (child, mother, father, etc.). Period indicates the period for the source, for example "Newspaper, anniversary.[i]

Remember that the spelling of first name, surname and place of residence (address) may not be standardized.[ii] If you are unsure of the spelling, feel free to use an asterisk (*) to truncate the search term. That way, Thorval* will also find Thorvald. Remember that many persons changed their surnames, especially women at marriage. For more complicated searches, it can be useful to prepare for the Histreg session by searching in the Digital Archive (digitalarkivet.no) or in the advanced user interface at the Norwegian Historical Data Centre (rhd.uit.no). At the latter site, it is also possible to search more specifically using the municipality number for place of birth and period for year of birth.

The search result contains one line for each person instance that matches the criteria. In addition to a hyperlink to the Person page (with first name and surname), clickable hyperlinks to the source instance (PFID) in the Digital Archive have been added, as well as information about the source.

In Histreg, it is possible to sort the search by e.g. first name, last name and year of birth. The search also shows the number of person instances that are already linked. It is also possible to have the search show persons instead of person instances, i.e. merging the lines for the person instances that are already linked.

The system can calculate scores for search accuracy. The score is calculated based on similarity in year of birth (FÅ), name (NL), place of birth (FS), position and status (SS), partner's name (PN), father (FN) and mother (MN). Each of these variables is between 0 and 1, except for NL, PN, MN and FN which are between 0 and 3. Score is a number between 0 and 10 where 10 is given when all search criteria match perfectly. The score is in most cases calculated with the formula:

Score=(4*GET+NL+FS+BS+SS+PN+0.5*(MN+FN))/1.6

The formula is overruled in case of a conflict in the data (score=-1 e.g. different gender or in the case of two baptisms at different times), a large gap in the year of birth or event (score =0) and in the event of a coincident date of birth (in case of name similarity score=9.8).

The user can select a person record or instance and then calculate the score from this person to other records or instances in the search list. This is done by pressing "Show score calculation" [Vis score beregning], selecting a record and pressing "Calculate score" [Beregn score]. It is also possible to find persons who are similar to each other in a search. It can be used e.g. by searching for everyone in a municipality from a specific farm, with a specific occupation or rare surname. This is done by pressing "Show score calculation" [Vis score beregning] and then "Find groups" [Finne grupper]. You can adjust the requirement for how similar the people in the groups should be. The limit can be set between 0 and 10 and the pre-filled value is 5. Person baskets with these person records are then displayed. It is possible to remove records and link other instances together. All the person records in the group are numbered 1,2,3 etc., so for instance a score of "6.5 with 3" in line 4 means that the similarity between the persons instances in lines 3 and 4 has a score of 6.5. Below the groups there is a residual group with records which do not belong to any group. When linking a group of records, the newly linked person will be transferred to the residual group.

It is possible to link directly from the search page if you are logged in. You can then tick several people in the link column and press "Add to person basket" [Legg i personkurv] at the top of the page. This person basket is similar to the one on the person page, cf below. Here you must mark the main instance (most important/safest source record) before pressing "Link together" [Lenk sammen]. When you have linked the records and/or instances, the search list is updated. This option is designed so that users can easily "clean up" the search list.

Person pages

If the search above resulted in one or more relevant person instances, click on the name you wish to work with, and you will be brought to the *Person page* (Figure 2). This page has the person's first and last names as the heading. In the Person page you can select a candidate for linking person records and connecting family members. Alternatively, you can find person pages by copying the ID (for example pf01038117000202) from the Digital Archive into the hyperlink to the Person page, for example http://histreg.no/index.php/person/pf01038117000202. In the upper part of the Person page, you will find information about the person followed by his/her parents and siblings, partner

and children. In the middle of the page there is a life course table [Livsløpstabell] with overview of source entries and instances that are already linked to the person. At the bottom of the page, you can enter and edit the person's biography and notes, as well as enter and edit references - if you are logged in.

> Legg i personkurv
>
> Legg i familiekurv

Anna Emelie Nøst*

Kvinne
Født: 1856, Trondhjem

> Rediger persondata   Søk etter lignende personer

Foreldre og søsken

Far: Ole O. Andersen Nøst , 1826 -
Mor: Anna Ulrikke Nøst , 1835 -
Søsken: Ole Severin Arntz Nøst , 1855 -
Søsken: Henrietta Gabrielle Henriette Nøst* , 1860 -
Søsken: Axel Antonius Nøst* , 1866 -
Søsken: Inga Marie Nøst* , 1869 -
Søsken: Ambrosius Nøst* , 1871 -
Søsken: Ingevald Emil Nøst* , 1872 -
Søsken: Emilie Henriette Nøst , 1876 -

Partner og barn

Partner: Anders Johnsen Ekli , 1846 -

> Vis lenking av familiemedlemmer

Livsløpstabell - Oversikt over kilder med personen

Nr	Dato	Kilde	PFID	Rolle	Navn	Fødselsdato	Fødested	Bosted	Fam. stil.	Sivst.	Yrke	Far/brudgom	Mor/brud	Partner	Barn/andre	Usikker	Sikker
1	31.12.1865	FOLK, Trondheim, 1865-1865	pf01038310008835		Anna Emilie Nøst	1856	Trondhjem	Trondhjem: Bersvendveitens vestre Side	deres Datter	ug							
2	16.04.1871	MINI, Trondheim, 1856-1872	pk00000000803444	konfirmant	Anna Emilie Nøst	08.10.1856	Thj.					Ile Nøst	Anna Ulrike f. Øien				
3	31.12.1875	FOLK, 1637...1639, 1875-1875	pf01052370002080		Anna Emilie Nøst*	1856	Trondhjem	Orkdal: Fandrem	d	ug	Hjelper Forældrene						HP
4	27.04.1880	MINI, Trondheim, 1880-1901	pv00000001449568	brur	Anna Emilie Nøst	1856	Trondhj.					Ole Andersen Nøst	Anders Johnsen Ekli				

Biografi og merknader

> Vis redigering

[text area]

> Lagre endringer i merknader

Referanser

> Rediger referanser

Klassifiser siden

> Kjent person som Fritdjof Nansen   Eksempel på gjennomarbeidet side

Figure 2: Person page with 4 person records that are linked together (from top census 1865, Confirmation in 1871, census 1875 and as a bride in 1880). The two columns to the right may be used to specify whether the link is uncertain or certain with HP which is the main source for this person defining the ID for the person.

It is possible to edit the information at the top of the Person page (e.g. change Ane H. Andersen to Anne Helmine Nilsdatter) by clicking "Show editing" [Vis redigering]. The editing will not change the transcription of the original sources, only the information above the button "Show editing"[Vis redigering] and under the heading "Biography and notes" [Biografi og merknader]. For places of birth and death, we prefer the parish and municipality structure in 1947, used by the National Archives, the time when number of municipalities peaked. However, it is also possible to use the municipality

name for the year in question. County name is required if there are several municipalities with the same name (e.g. Nes, Bø) or the municipality is relatively unknown.

The field for biography and notes is used in particular for documentation of changes, links and connections to kin and for short biographies. We want longer and elaborate biographies to be written in the local history wiki. Remember to click "Save changes to notes" [Lagre endringer i merknader].

When you are logged in, you can link together entries about the same person, for example the person's records in the 1900 and 1910 censuses. This is done by merging two or more person pages. Thus, each person page can consist of one or more entries that are linked together. Be sure to close tabs that are not in use. It is especially easy to lose your way if you click 'back' in the browser.

The linking of different source instances for the same person is carried out by: (i) clicking "Add to person basket" [Legg i personkurv] on all the the relevant person pages, (ii) clicking "Open person basket" [Åpne personkurv] on one of the relevant person pages, (iii) marking which source entry is the most important [Hovedforekomst]. (iv) If uncertain whether the link is correct, mark this as uncertain. Mark as certain if you are certain and the data deviates (e.g. different year of birth) (v) click "Link together" [Lenk sammen] in the tab where the person basket is updated. The table with all the linked source instances is called the lifecycle table [Livsløpstabell].

We want the main record or instance to originate in the most important and safest source. The priorities are censuses with the most recent first, then baptisms, deaths and other entries in church registers and finally other sources. It is not possible to mark the main instance as a linking candidate.

It is possible **to remove links** by pressing "Show editing" [Vis redigering]. This is done by ticking the person instance(s) you wish to remove. Then click on "Remove". You can choose to let the removed records stay together as a linked group, thus sometimes links should be removed stepwise. Here it is also possible to change whether a person instance is a linking candidate or not.

Records belonging to family members can be linked together (e.g. the same spouse in two different baptisms) by pressing the button "Show linking of family members" [Vis lenking av familiemedlemmer]. There will then be up to 5 columns of boxes for records belonging to fathers, mothers, siblings, partners and children respectively. For each column, you can mark the person records you want to link and press "Link the person records together" [Lenk sammen personene]. If you want to link first the children's records Ole1 and Ole2 and next the children's records Anne1 and Anne2, you must repeat the process twice.

It is possible to connect related parents, children and partners by: (i) clicking on "Add to family basket" [Legg i familiekurv] on all the relevant person pages, (ii) clicking on "Open family basket" [Åpne familiekurv] on one of these person pages, (iii) marking who is the parent and children (iv) and clicking "Connect family" [Koble familie] in a tab where the family basket is updated. Partners are registered by marking two persons as parents, even though without children in the family. Siblings are marked by registering the siblings as children but without parents. Family links are between parents and children and when linking siblings without parents, virtual parents are established, hidden from the user. Experienced users may remove all links and/or all family links to a person instance from the Error handling tab [Feilhåndtering].

Family relationships include foster, adoptive and stepparents in addition to biological parents. These must be registered manually, and it is up to the user to describe for instance if the mother's new husband is the child's stepfather. This is often a discretionary decision and can be justified in the

comments field. Family relationships can be difficult. In a "Parents and siblings" list, the mention of father, mother and adoptive, foster, stepfather/mother is the relationship to the person on the Person page. The persons listed as children in a "Parents and siblings" list must have a child relationship to (both) parents at the top of the list, but not necessarily the same relationship as with the person of the Person page, since we only use the concept 'child' and not e.g. 'adopted child' or 'half-sibling'. In the "Partner and children" list, the person listed as partner is the partner of the person on the person pages and/or has children in common with that person. Listed children are children, adopted, foster or step children both of the person on the Person page and of any partner who is at the top of the list. It is only on the relevant person page that you can see how the relationship is between different types of children and parents. Since children's status is not always marked in the censuses, these relationships may be fuzzy.

References

Users are encouraged to create as many references as possible that can provide additional information about the person, e.g. to sources that are not included with the search function above. Please include information from encyclopedias, scientific and popular science articles and genealogies where the person is mentioned. The entire Digital Archive is included when searching in Histreg, and those sources should appear in the life cycle table with all source instances and not in the reference list.

Both a description of the source and the URL are required. The URL should preferably be a stable hyperlink to where users can read the source. For printed sources, the hyperlink can be to the National Library or the publisher. The description of the source must be in the same format as other references to the same source so that these come after each other in the alphabet. Surname is written first on newer sources and first name first on older sources, where this is a more stable description of the person.

Examples in Norwegian
Geni, Frisach, Hans
Eidsvollsmennenes etterkommere, Anker, Peder Etk. Wedel Jarlsberg, J.C.H.N.
(Lenke til eidsvollsmannen Peder Ankers etterkommer J.C.H.N. Wedel Jarlsberg)
Før i tida ... (tidsskrift). 1. hefte (1962), Utg. Gjerstad historielag.
(Tidsskrift der man har laget lenke til Nasjonalbiblioteket)
Heimen , 2014, nr 3, s228, Kjelland, Arnfinn, Frisak, Hans
(Vitenskapelig artikkel av Arnfinn Kjelland om Hans Frisak.)
Lokalhistoriewiki, Melstein, Ester
Wikipedia, Amundsen, Roald

Examples in English
Genius, Frisach, Hans
The descendants of the Eidsvoll men, Anker, Peder Etc. Wedel Jarlsberg, J.C.H.N.
(Link to the Eidsvollman Peder Ankers descendant J.C.H.N. Wedel Jarlsberg)
In the past ... (periodical). 1st volume (1962), Published by Gjerstad historielag.
(Journal in which a link to the National Library has been created)
Home , 2014, no 3, p228, Kjelland, Arnfinn, Frisak, Hans
(Scientific article by Arnfinn Kjelland about Hans Frisak.)
Local history wiki, Melstein, Ester
Wikipedia, Amundsen, Roald

Famous people and examples
On these pages there are lists of well-known people. This registration is done on the Person page.

The unregistered - registration of persons not found in the Digital Archive

It is possible to register occurrences of a person who is not in the Digital Archive or who is found in occurrences in the newspapers. In the registration, the user is asked to provide the relevant source. See the guidance on this page.

Error handling

There is a separate tab for error handling where you can remove all links and or family links or references to a person. It happens that pages lock up and won't display. Then you have to remove all links. Similarly, references can be lock and must be removed on this tab. If there are incorrect family links, it may be because a wrong person instance has been linked (then the link to this person instance should be removed), errors in the church register (e.g. mother stands as father in baptism, we can't do anything about that) or that the wrong family relations has been created manually (then they can be removed on this page, but then you remove all family relations that do not come from church records and you risk that many family relations that were correct will have to be rebuilt)

This page also has an overview of persons where we suspect incorrect linking and who require manual control. Every time you enter the page, you get a random selection of persons where we suspect mistakes. We ask contributors to check the page and either correct the error or mark the links as secure and then remove the person from the list. If you are not sure whether there is an error on this person's page, you leave the person in the list and other contributors will access this page later.

My municipality

Many contributors are particularly concerned with a particular municipality. On this page, contributors can find instances of persons from censuses in a self-selected municipality that are not linked. The program chooses a random place in the census and prioritize families where no people are linked. Since our automatic methods have not found links, these may be persons where it is difficult to link or who have no other person instances.

The newspaper pages

It is possible to register news events, edit those that have been registered and search for registered events. It is encouraged to register new events. It is a way to register new people in the database. Most of the events in the database are read automatically and there are therefore a number of transcription errors. Links have been added to the newspapers archive and to the National Library. For these to work, you must have the right to do so. Links to the newspaper Aftenposten require a subscription and that you have already opened the electronic newspaper in your browser. Links to the National Library work when you have access to that Library. In the event of error, two URLs may appear in the URL field. Then the first one must be removed manually for the link to work.

We ask users to manually check the information and mark when all the information about the dead has been registered in an edition. The same applies to anniversaries and marriages. This makes it easier to collaborate between many contributors.

Statistics overviews the number of contributors, links and people who are linked. There is also an overview of registered events from the newspapers and the latest changes in the Histreg database.

Auto linking makes possible the import of links that have been created with other software. The links are specified with IDs from the Digital Archive. This is only by agreement with the administrator.

---

[i] To search in Aftenposten, you must tick Oslo as geography to avoid too many wrong matches. You also need a subscription.

[ii] For information in Fanger.no (prisoners), we depend on first and last names being written in the same way as in the source. There are also limited opportunities for geographical searches linked to Fanger.no. Events in fanger.no are given a line in the life cycle table in the same way as a census or church register. We have had to date all these events to 1942. For the vast majority of people, this gives the correct chronology even if the year is wrong.