# 第7章　前置詞 (Prepositions)

名詞（又は代名詞、動名詞）の前に置く

## §7-1　前にある語句との結合

　どの前置詞を選ぶかは、後に続く名詞よりもむしろ前にある名詞、動詞、形容詞などによって決まる場合が多い。

（名詞）＋（前置詞）
evidence [U] for (of) A
a reason for A
an expression for this interaction
a change in A
the difference between A of $B_1$ and $B_2$
an increase (a decrease) in A with B
to play a role (of B) in A
an experiment on A
the data on A
<u>by</u> the analogy of A
an analogy between A and B
the effect of A on B
influence [U] of A on B
B is under the influence of A
an answer to this problem

research in nuclear physics（分野）
research on nuclear fission（限定対象）

（Exercise 7-1）括弧の中に最もふさわしい前置詞を書き入れよ。

　　　　Fill in the parentheses with the most appropriate prepositions.

1. A change (　　　) the potential has a remarkable effect (　　　) the transmission coefficient.
2. The evidence (　　　) superconductivity is as follows.
3. A structural phase transition was the reason (　　　) the anomaly (　　　) the resistivity.
4. A criterion (　　　) the theory is obtained (　　　) comparing the dipole moment observed (　　　) that calculated.
5. Impurities play an important role (　　　) increasing metal hardness.
6. Ohm's law refers (　　　) the linear increase (　　　) the voltage drop (　　　) a resistor (　　　) current.
7. New results (　　　) neutron scattering experiments (　　　) the spin structure (　　　) this material has recently been reported.
8. $S$ is equal (　　　) the summation (　　　) $i$ equals 1 to $N$ (　　　) $x_i$.
9. The difference (　　　) the masses (　　　) a neutron and a proton is greater (　　　) that of an electron.

（動詞）＋（前置詞）
to plot $y$ against $x$
to account for A　原因を説明する　(to take B into account　考慮に入れる)
to substitute A for B　(substitution of A for/into B)
to replace B with/by A
be calculated from A
be estimated from A
to result in A
to succeed in A
to consist of A

to focus on A

to depend on A

   (dependent on A, independent of A, dependence of B on A)

to apply A to B: 適用する　(to apply for A: 申し込む)

A is attributed to B　(We attribute A to B,　be attributable to B)

A is ascribed to B

to relate to B,　to relate A to (with) B

to correspond to A

be filled with A

be equipped with A

be compared with/to A (be comparable with/to A)

to begin with A

to start with A


**take account**（考慮に入れる）**の用法**

1. to take account of this fact

2. to take this fact into account

3. to take into account of the fact that …..　(**目的語が長い場合**)


（Exercise 7-2）括弧の中に最もふさわしい前置詞を書き入れよ。

        Fill in the parentheses with the most appropriate prepositions.

1. *X* is very large compared (　　　) *Y*.

2. The outer electrode is equipped (　　　) a wire mesh.

3. The chamber was filled (　　　) helium.

4. The next session will start (　　　) 1 p.m. (　　　) a plenary lecture.

5. Penetration depth of the ion was calculated (　　　) the mean of these values.

6. In Fig. 4 the observed values of electron yield are plotted (　　　) the wavelength of stimulating light.

7. The density of states was estimated (　　　) the specific heat.

8. We used a solvent consisting (　　　) 60 wt. % toluene and 40 wt.% ethanol.

9. This resistivity minimum is attributed (　　　) the Kondo effect.

10. The feature corresponding (　　　) the energy gap has always been observed.


（形容詞）＋（前置詞）

be different from A

   (cf. to differ from A,　a difference between $A_1$ and $A_2$)

be full of A

be characteristic of A　　(*cf.* a characteristic [C],　*pl.* characteristics )

be similar to A

be the same as A

be identical to/with A

be equal to A

be proportional to A

be applicable to A

be consistent with A

be compatible with A


（Exercise 7-3）括弧の中に最もふさわしい前置詞を書き入れよ。

        Fill in the parentheses with the most appropriate prepositions.

1. Our approach (　　) this problem is entirely different (　　) all the previous attempts.

2. The current is independent (　　) the voltage.

3. We used an apparatus similar (　　) that in our previous experiment.

4. Equation 1 is applicable (　　) the relativistic phenomena.

5. Our treatment is consistent (　　) thermodynamics.

6. The period-doubling phenomenon is characteristic (　　) non-linear dynamics.

## §7-2 後に続く名詞との結合

at a temperature
at a frequency
at the rate of $R$
for brevity
in a magnetic field
in vacuum
in detail
in principle
in /over a range
in a region
in the right/opposite direction
in this way
in this manner
in this process
in the vicinity of A
on the right/left
with a microscope（道具）
with a standard personal computer
by computer
by this method
by this procedure
by analogy,  by the analogy of A
under these conditions
under the influence of A

（Exercise 7-4）括弧の中に最もふさわしい前置詞を書き入れよ。
Fill in the parentheses with the most appropriate prepositions.

1. The experiment was carried out (　　　) the following conditions.
2. This will be explained (　　　) detail (　　　) a separate paper.
3. The resolution will be enhanced (　　　) up to 50% (　　　) this method.
4. The S/N ratio was improved (　　　) more than a factor of five (　　　) this new receiver.
5. We have succeeded (　　　) stabilizing the reaction pressure (　　　) this way.
6. Mercury remains (　　　) the liquid state even (　　　) room temperature.
7. The scattering rate is evaluated (　　　) the method of least squares.
8. The Eudora software was designed by Steven Dorner (　　　) the University of Illinois in 1988.
9. The crystal was irradiated (　　　) X-ray (　　　) two hours.

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Sattinger's law:

    It works better if you plug it in.


Horner's five-thumb postulate:

    Experience varies directly with equipment ruined.

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## §7-3 前置詞句

いくつかの語を結合して全体として前置詞のはたらき

as well as A
along with A
in addition to A
in accordance with A
in agreement with A
in spite of A (= despite A)
instead of A
in terms of A
on the basis of A    (= based on A)
with respect to A

by a factor of $N$
on the order of $10^{-3}$ eV

前置詞句は文を冗長にしがちである.
by means of ...→ by ...
because of the fact that ... → because ...
for the purpose of ... → for ...
in the case of ... → if ...
by the use of ... → by using ...

（Exercise 7-5）括弧の中にふさわしい前置詞句を書き入れよ。
Fill in the parentheses with appropriate prepositional phrases.

1. The rotation of $E$ equals minus the partial derivative of $B$ (                              ) $t$.
2. (                              ) the parameter $\alpha$, the modified Hamilton's principle can be written by Eq. 1.
3. (                              ) his theory, Dirac was led to the conclusion that to each "normal particle," there must exist an "anti-particle" with exactly the same physical properties but the opposite electric charge.
4. The size of an atom is (                              ) $10^{-10}$ m.
5. The signal-to-noise ratio has been improved (                              ) five with this new detection technique.

{on the basis of,     based on,          by a factor of ,
 in terms of,         with respect to,      on the order of}