



Earthquake & Asbestos

Kobe University Project Innovative Ethics

Kyoto Seika University Project of Functional Story Manga

Matsuda, Tsuyoshi

Enoki, Akiyoshi

Maruyama, Eiji

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**マンガで読む
震災とアスベスト**
Earthquake & Asbestos

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Kyoto Seika University Project of Functional Story Manga

Contents

Earthquake and Asbestos.....	3
(Written by Akiyoshi Enoki)	
Three Minutes Asbestos Lectures.....	22

STAFF

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2013 summer
A university in Hyogo

NEWS
**The Clearing of the Iwate
and Miyagi Rubble Site to be
Finished by Year's End**

The rubble caused by the Great Eastern
Japan Earthquake will be disposed of by
the end of this year through combustible
incineration.
(Daily Newspaper)

[Read Full Article]

The
reconstruction
in Tohoku is
really moving
right along...

Rokujou!

You've
researching
asbestos
problems,
right?

Kousaka!

No, why
do you
ask?

Well, I
heard from
my friend
that you
have...

I'm looking for someone who knows about asbestos.

I heard that you attended a conference about asbestos in Amagasaki.



Ahh, I see.

Well, when I was in middle school,

my grandfather died of mesothelioma, which is caused by asbestos.



Oh...

I'm sorry!



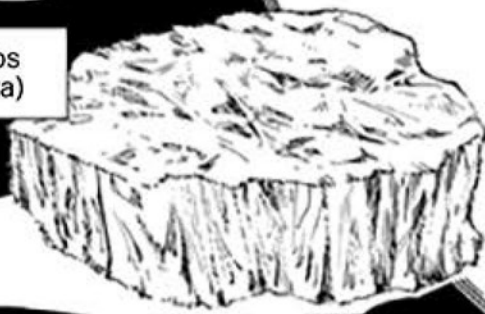
No, it's ok... by the way

do you know that asbestos is a naturally occurring mineral?

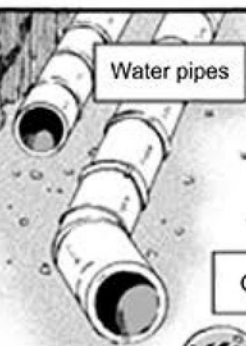
It used to be called Ishiwata. It's light, solid and fireproof most importantly, it's cheap.

So the world used this material for the things that are around us.

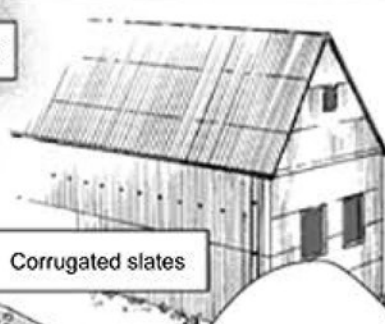
Asbestos (Ishiwata)



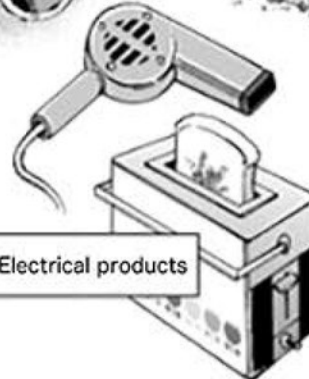
Water pipes



Corrugated slates



Electrical products



However, the world was not informed of the dangers...

CRASH!

Asbestos is fibrous block, and so it scatters and disperses in all directions when it is whittled or broken.

Each fiber is 1/5000 the width of a hair!

Lung cancer

Asbestos lungs

Pleural mesothelioma

When you are exposed to this dust, diseases such as cancer may develop 20 to 50 years later!

Furthermore, asbestos fibers cannot be removed through surgery.

Diffuse pleural thickening

Peritoneal mesothelioma

My grandfather worked in an asbestos factory when he was young.

He had two liters of water extracted from his lungs after the onset of the disease.

He suffered a lot because of the surgery and cancer drugs.

In addition,
those who lived
near the
factories or
worked in
buildings
containing
asbestos also
got those
diseases.

The number
of victims
may increase!

That's all
I know.

You
wanted
to know...?

The truth
is...

From the workers
dealing with
the rubble of
the Hanshin-Awaji
Earthquake in
1995...

NEWS
**Asbestos: Mesothelioma
caused by the rubbles of the
Hanshin-Awaji Earthquake.**
(Daily Newspaper)

In Akashi City, Hyogo,
one male worker who cleared
the rubble by the Hanshin-
Awaji Earthquake have shown
symptoms of mesothelioma.
[Click to read full article]

mesothelioma
victims have
emerged.

Mesothelioma?

These people are ready and willing: hurry up with the rescue! Prevent buildings from collapsing and reconstruct as soon as possible!

Not only city officials, but also people who had lost their jobs

cleared the rubble, in the aftermath of the earthquake.

Before, they did not have any relationships with asbestos.

Now it has been confirmed that some of them are suffering from asbestos-related diseases.



At that time the risks of asbestos were not well known.

There were almost no protective measures.

Children passed by the rubble on their usual route to school.





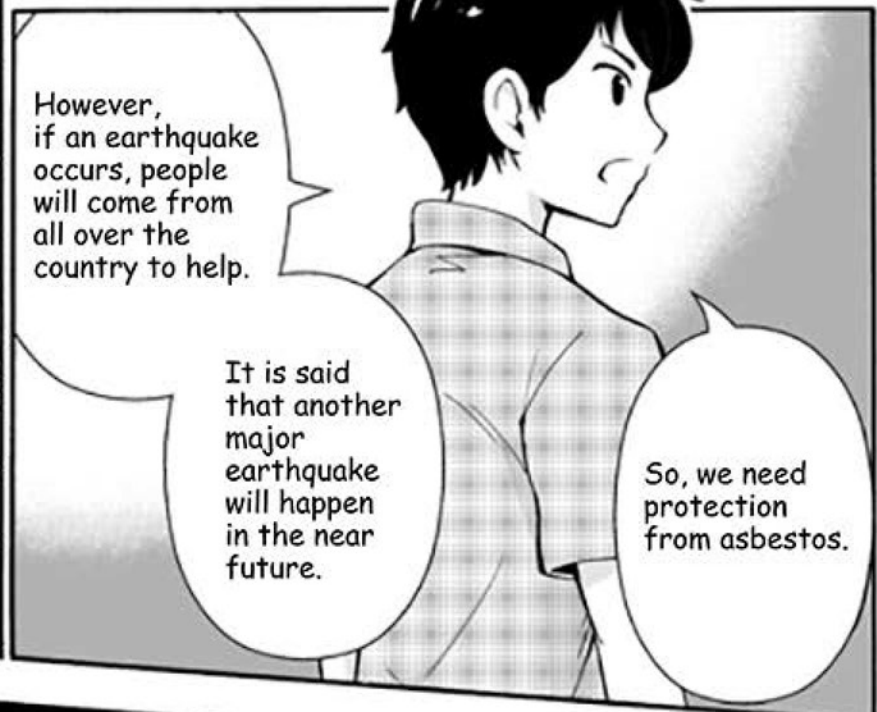
So much carelessness...

I didn't know anything about it, since I was just born.



It is only here in the Kansai region that the asbestos is being discussed to any extent.

Even now, it seems difficult for others to take the matter seriously.



However, if an earthquake occurs, people will come from all over the country to help.

It is said that another major earthquake will happen in the near future.

So, we need protection from asbestos.



Of course, in Tohoku too...



gasp!

By the way,
you volunteered
in Tohoku, right?

Yes,
several
times.

When clearing
the rubble,

you need
to wear
a special
asbestos
dust mask.

PROTECTIVE
DUST MASK

You can buy
them at places
like home
centers.

Before,
I too did not
know enough
about
asbestos...

While I
worked there,
I only wore
a towel
around
my mouth.

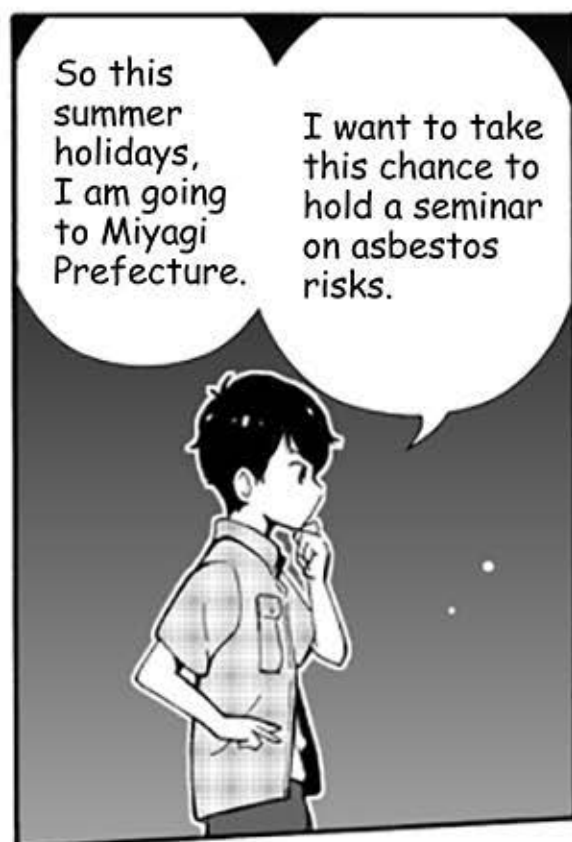
tight!

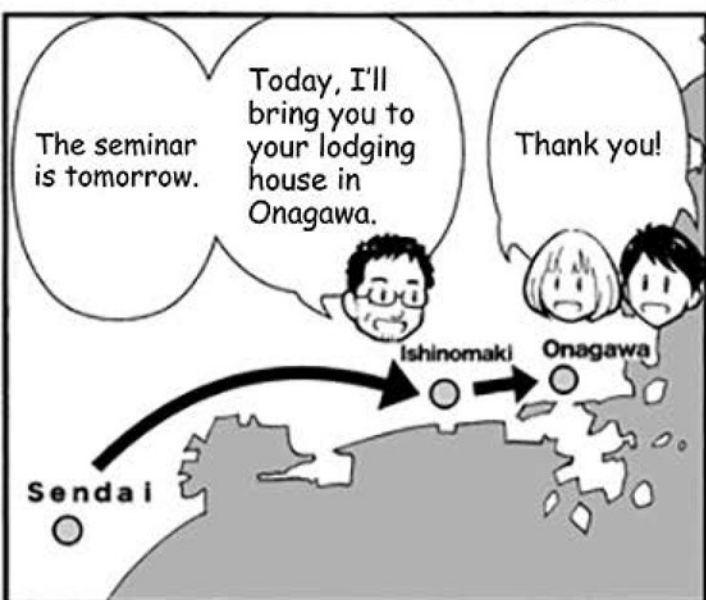
I heard that
the normal
flu masks
don't work.

That's
right!

I saw many
volunteers
working in
Tohoku.

Some of them
were wearing
the dust-proof
mask, but
others were
not...







It's only my first time here in Sendai but it seems like a safe place.

Eh?

I saw on the news the situation was pretty bad here.

It's relatively safe. But the east side of the highway was devastated by the tsunami.



Oh... I'm sorry... I see...



Let's prepare for our lesson!

Yes!

These are photos of my last trip in Tohoku.

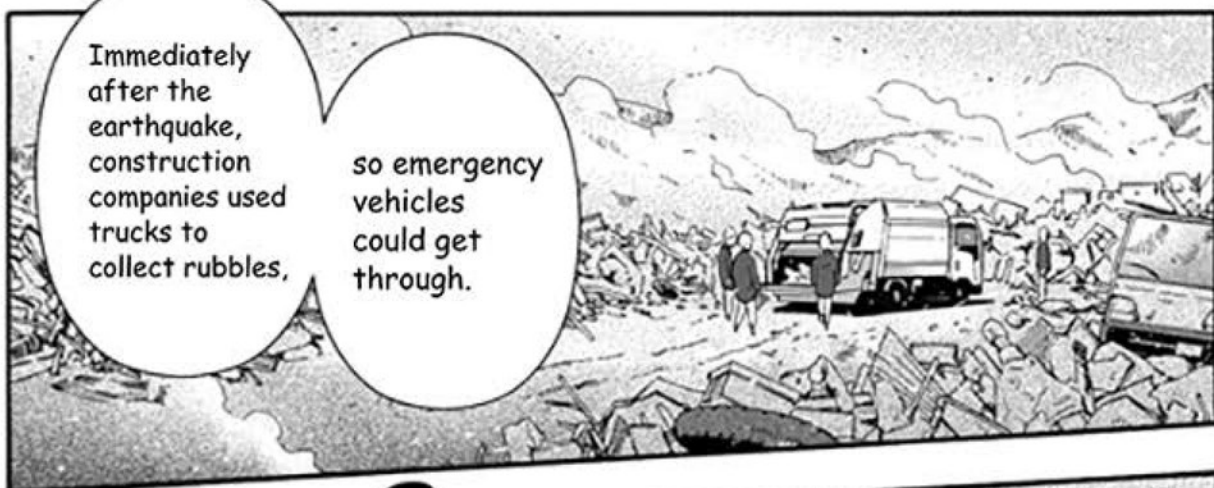


The rubble has been mostly cleared away now.

There have been a lot of piles around here until quite recently.

Immediately after the earthquake, construction companies used trucks to collect rubbles,

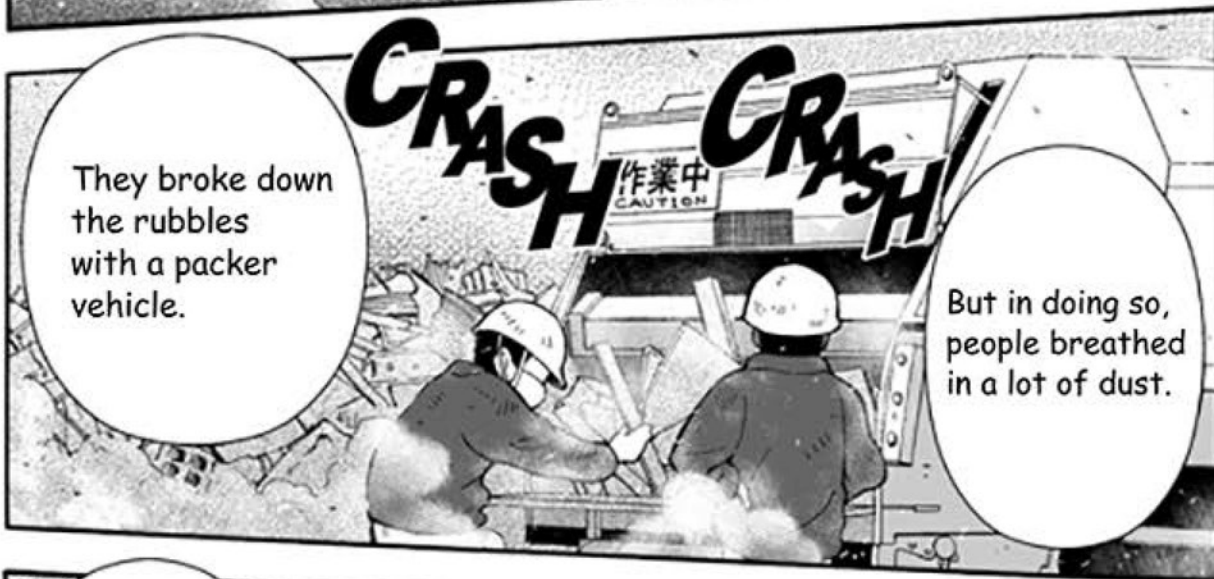
so emergency vehicles could get through.



They broke down the rubbles with a packer vehicle.

CRASH CRASH!
作業中
CAUTION

But in doing so, people breathed in a lot of dust.



Furthermore, there was so much rubbish in the vehicle's bin that they couldn't take it out mechanically.

So people had to scrape it out with their own hands.



I think workers breathed in a lot of asbestos dust at that time.

I heard the same story after the Hanshin-Awaji Earthquake.

Tohoku is the same.



People walked among the rubble looking for their missing families every day.

After the quake, the fine dust blew across the whole city.

We couldn't stop coughing for days.

Asbestos dust also must have been in the air...

Like this,

the inside of damaged buildings are covered with sheets during deconstruction.

But the operation can be quite careless.

We can only conclude that workers and neighbors are exposed to the risks of asbestos.



Ahh,

the temporary houses!

Many people are still living in there.



In the summer after the earthquake we had a questionnaire about asbestos risks from the people in the temporary houses.

Most of them were unaware of the problem of asbestos.



One lady was so shocked from the earthquake that she couldn't write anything more.

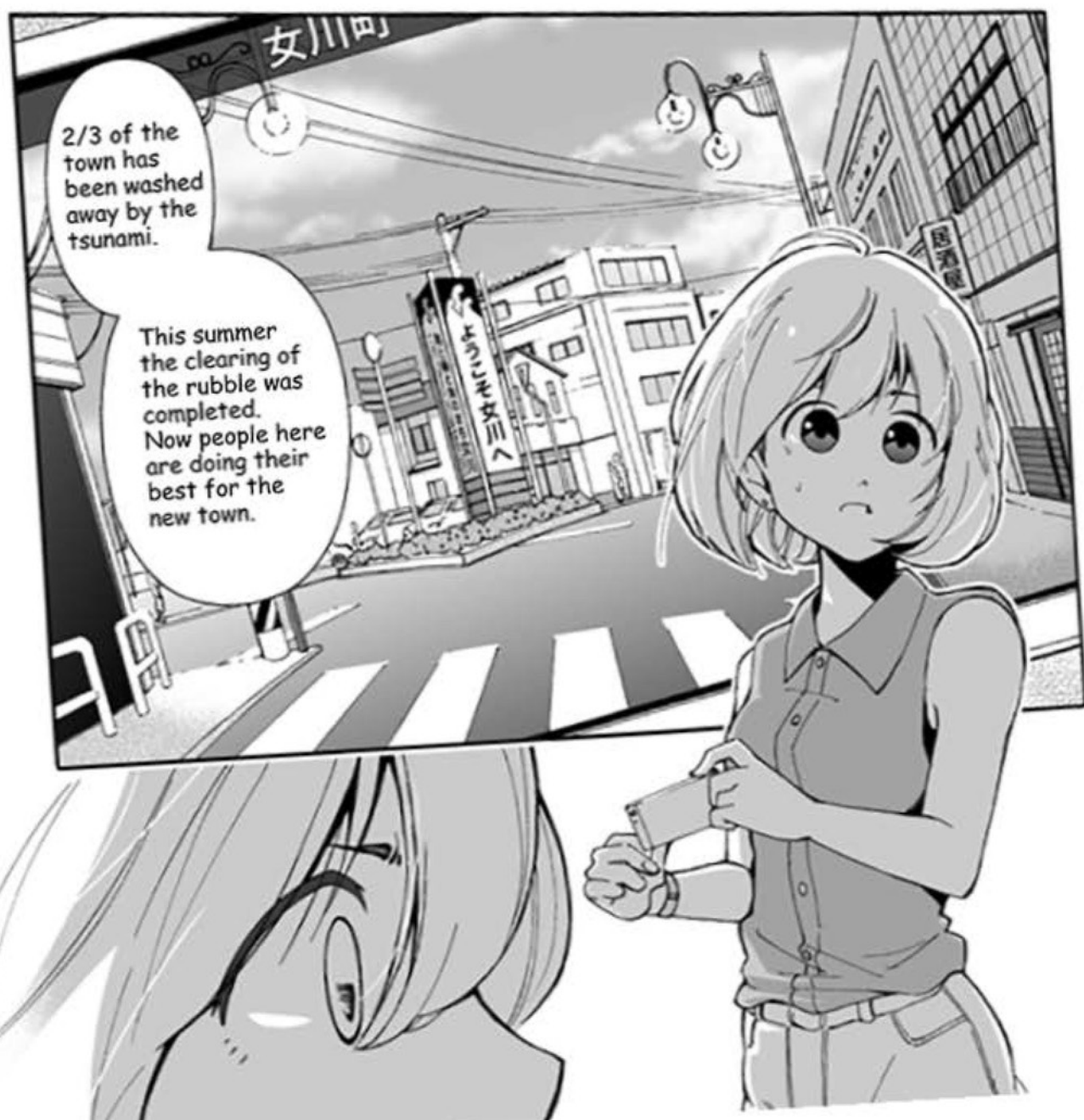


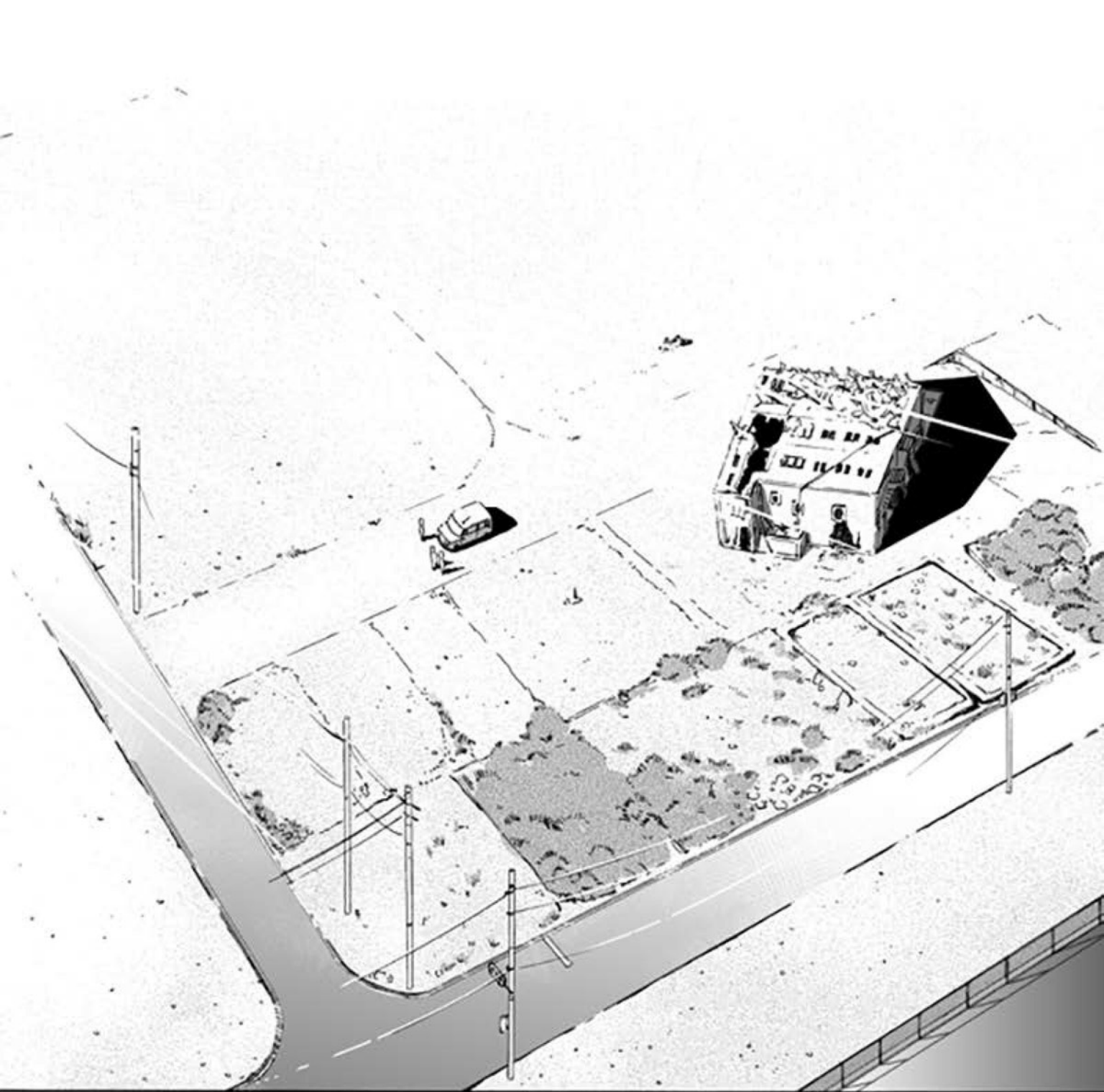
Some people have got over the shock of the earthquake,

others cannot recover so quickly.



Really...







The next day,
at the community center...

I still cannot
persuade
myself if I
should tell the
truth or not...

We're
about
to
start...

Sleepy...

Excuse
me!

Can I attend
the asbestos
seminar?

Kuraki
invited
me.

wheeze


wheeze

Are you
a NPO
member?

After the
earthquake
I worked for
clearing the
rubble...


Once I
knew about
asbestos,
I started to
feel very
anxious.

Kuraki
happened
to tell me
about
this seminar.




I'm scared,
but I want to
know more
details about
asbestos,

so I can
tell my friends
and family.



Ahh, I see!
We will try
our best to
explain to you.

Please
come
with me!



SLAP! SLAP!

I have
to
explain...

I
have
to do
it.

They
have to
know
about it!



GRIP!

How to protect ourselves
from asbestos?

We know that
people cannot
actually dread
the illness right
now and they're
struggling
enough in the
aftermath of
the earthquake.

and perhaps
today's
lecture won't
have much of
an effect...

Nice to
meet you!

We are
from Kobe!

But we will never
stop telling our
message for
those who want
to know it for
the future.

Everyone,
do you know
about
asbestos?



Three Minutes Asbestos Lectures.



What is asbestos?

Asbestos is the fine fibers of minerals that cannot be seen with our naked eyes.

- Because it is cheap and easy to process, asbestos was called "magic mineral" and used as a raw material of many industrial goods.

However...Since 1990s it has been banned in the developed countries. The reason for it is: when we breathe asbestos fibers, it can cause serious diseases.



The reason for that is, it can cause serious diseases, if we inhaling asbestos fiber.

What kind of diseases does asbestos cause?

Asbestos related diseases will break out after the exposure of it around 10 to 50 years later.

The main diseases are...

- **Ordinary breathing becomes painful.**

It's hard to breath.
The patient require oxygen inhaler all the time.

- **The patient becomes to need inhalation of oxygen.**

These diseases are bad prognosis.
Recovery is difficult.



Smoking makes the risk of diseases much higher.

**The health hazards are not limited to the people who had the jobs directly related to asbestos.
We, ordinary citizens, should be careful!**

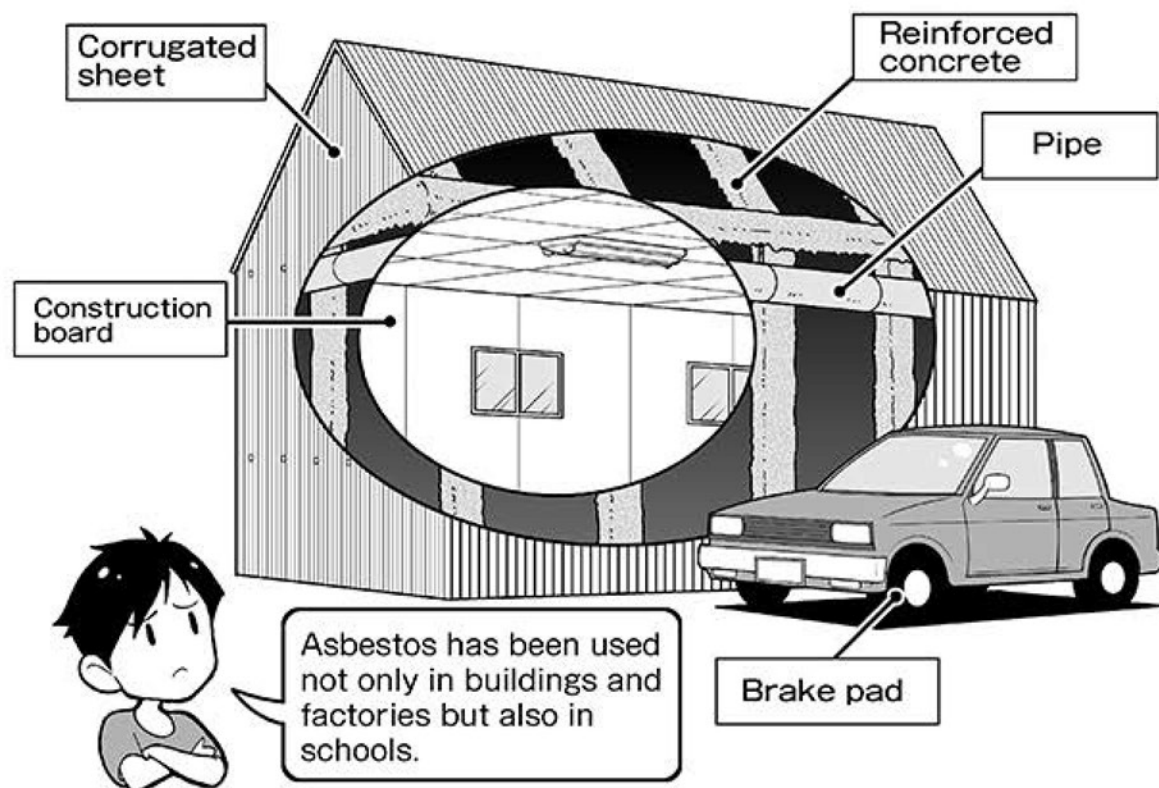
Which items we use are made of asbestos?

Asbestos has more than 3000 applications or uses!

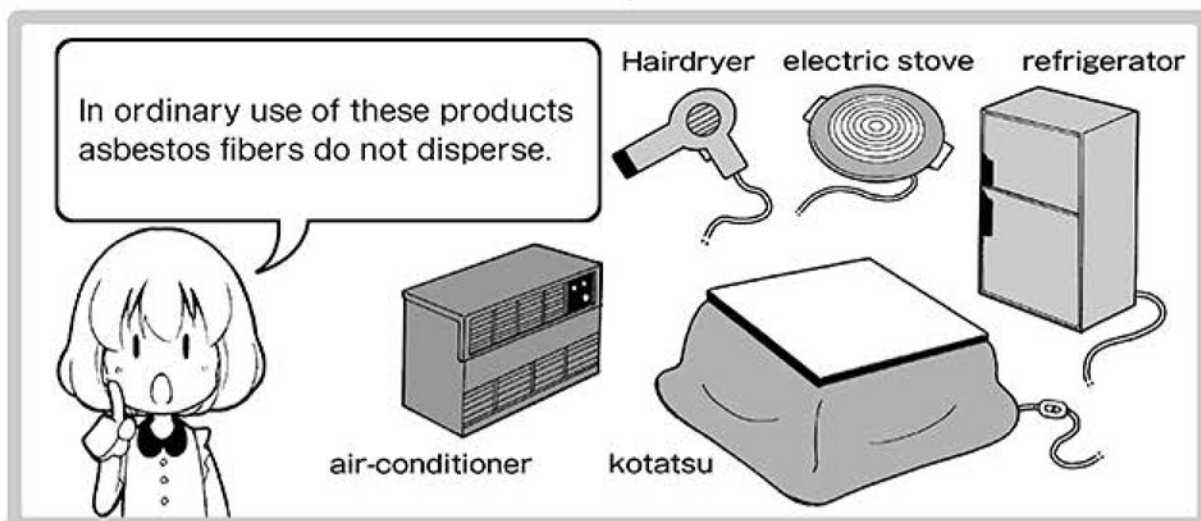
In Japan, 80% of the asbestos was used for building materials.

In buildings, for example, there have been corrugated sheets, construction boards, and reinforced concrete.

In cars, asbestos as a raw material was used for automobile brake pads.



Asbestos was especially used as insulating materials for various products.

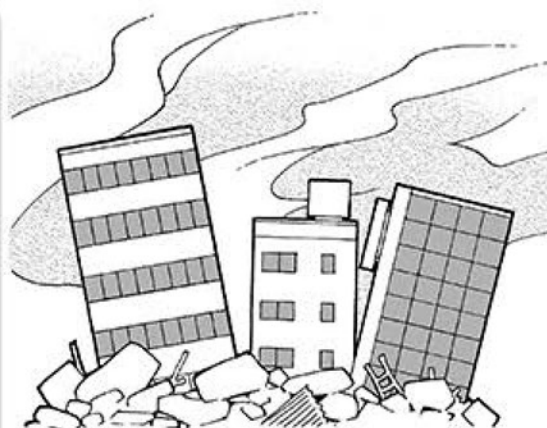


Earthquake and Asbestos exposure

Asbestos is not used for household goods in many countries anymore. Old buildings should be dismantled by taking measures to prevent asbestos from scattering.

**However, we have risks after earthquakes.
When buildings collapses, asbestos in the buildings
would be dispersed.**

- In the Hanshin-Awaji Earthquake in 1995, there were outbreaks of mesothelioma cases among those who worked for clearing the rubble left by the quake.
- There is the same concern about Tohoku Earthquake in 2011 too.



We have the same risk in Nankai Trough Quake* and the inland earthquakes in the near future.



We hope the leftover of asbestos in buildings be safely removed before another earthquake disaster.

How to protect us by ourselves?



*Some of huge earthquakes have been caused by the movements of Pacific plate in the Japanese history.

What can we do to protect us from asbestos?

Have the dust-proof masks not to breathe asbestos fibers for an earthquake!

We should wear the dust-proof masks, DS2 or N95 that meet the national standards.



These standards are the same as high as that prevent us from breathing PM2.5.



Take care of yourselves in areas struck by disasters, because buildings may be dismantled without covers.

What should we do if we get asbestos related diseases?

- If you had the jobs related to asbestos in the past in Japan and if you had a working visa, workers' compensation insurance can be available.
- In Japan you can receive a benefit by "Act on Asbestos Health Damage Relief" according to the recognition that you got asbestos related disease, if it is not the case for workers.
- Please contact the Labor Standards Inspection Office or a recognized NPO, for the support of legal process of this standard if you live or work in Japan..

If you have any worries or anxieties about your physical conditions, please get a physical exam to be sure.
If you are over 40, you can get a lung cancer check-up at the hospital that specified by the local government, for 1,000 yen.

It is important to remember our information for the health of yourself and your close people.



Colophon

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Contact

Kobe University Project Innovative Ethics

Website: <http://www.lit.kobe-u.ac.jp/ethics/>

E-Mail: piek@lit.kobe-u.ac.jp

Kyoto Seika University

Website: <http://www.kyoto-seika.ac.jp/eng/>

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